

L1 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:89751 HCAPLUS

DOCUMENT NUMBER: 122:30375

TITLE: The effect of folate and cobalamin on osteoarthritic hands

AUTHOR(S): Flynn, Margaret A.; Irvin, William; Krause, Gary

CORPORATE SOURCE: Department of Family and Community Medicine,  
University of Missouri, Columbia, MO, USA

SOURCE: Journal of the American College of Nutrition (1994),  
13(4), 351-6

CODEN: JONU DL; ISSN: 0731-5724

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Historically diet and arthritis have been cause/effect assocd. but the idea is controversial with little evidence that specific diet components are effective treatment. This controlled, doubleblinded, crossover study reports the effect of folate and cobalamin supplements in 26 humans diagnosed for an av. 5.7 yr with idiopathic osteoarthritis of the hands who had been medicated by prescribed nonsteroidal anti-inflammatory drugs (NSAID). The subjects were randomly allocated to consume daily 6400 .mu.g folate or 6400 .mu.g folate plus 20 .mu.g cobalamin or lactose placebo each for 2 mo within self-selected diets. Pain was to be medicated by acetaminophen as needed, and at the end of each phase they returned for assessment and dispensing of the next treatment. For all subjects mean right and left hand grip values were higher with combined cobalamin-folate ingestion than with other "vitamin" supplements and were equiv. to NSAID use. No. of tender hand joints were greater with use of NSAID than with use of cobalamin-folate. Side effects with the vitamin combination were none; side effects of NSAID are many, and the cost of vitamins and acetaminophen also is lower. The limited no. of subjects in this study demonstrates that ingestion of a prescribed cobalamin-folate supplement and acetaminophen as needed resulted in pos. outcomes.

IT Arthritis  
Hand

(dietary folate and cobalamin effect on osteoarthritic hands)

IT 59-30-3, biological studies 103-90-2, Acetaminophen 13408-78-1,  
Cobalamin

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(dietary folate and cobalamin effect on osteoarthritic hands)

=>

=> fil hcaplus  
FILE 'HCAPLUS' ENTERED AT 10:13:13 ON 25 AUG 2002  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 25 Aug 2002 VOL 137 ISS 9  
FILE LAST UPDATED: 23 Aug 2002 (20020823/ED)

Jan Delaval  
Reference Librarian  
Biotechnology & Chemical Library  
CM1 1E07 - 703-308-4498  
jan.delaval@uspto.gov

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d all tot 167

L67 ANSWER 1 OF 3 HCAPLUS COPYRIGHT 2002 ACS

AN 2002:540256 HCAPLUS

DN 137:114515

TI Compositions containing reduced **folate** for treating an **arthritic** condition

IN Roubenoff, Ronenn; Selhub, Jacob

PA USA

SO U.S. Pat. Appl. Publ., 8 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM A61K031-714

ICS A61K031-525

NCL 514052000

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 1

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002094970	A1	20020718	US 2001-20634	20011214
PRAI	US 2000-255600P	P	20001214		

AB The present invention features compns. contg. a reduced **folate** (0.01-500 mg/day) and a **cobalamin** compd. (0.0002-1 mg/day) for the treatment of an **arthritic** condition, such as **osteoarthritis**. The compn. further comprises a **betaine** compd. (50-20,000 mg/day). The compds. are administered orally or by other std. routes, e.g., i.m. or i.v. For example, 50 mg 5-**methyltetrahydrofolate** in combination with 1 mg vitamin B12 per day is administered to reduce joint pain and improve mobility or phys. performance in patients with **osteoarthritis**.

ST reduced **folate** **cobalamin** antiarthritic

**chondrocyte** protection

IT Cytoprotective agents

(chondroprotective; compns. contg. reduced **folate** and **cobalamin** for treating **arthritic** conditions)

IT **Antiarthritics**  
**Arthritis**  
Drug delivery systems  
**Osteoarthritis**  
(compns. contg. reduced **folate** and **cobalamin** for treating **arthritic** conditions)

IT **Betaines**  
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(compns. contg. reduced **folate**, **cobalamin**, and **betaine** compds. for treating **arthritic** conditions)

IT **Chondrocyte**  
(protection; compns. contg. reduced **folate** and **cobalamin** for treating **arthritic** conditions)

IT 58-05-9 134-35-0 135-16-0 2311-81-1  
2800-34-2 3432-99-3 10360-12-0  
13408-78-1, **Cobalamin** 31690-09-2  
31690-11-6 68538-85-2 71963-69-4, (6S)-  
**Tetrahydrofolic acid** 74644-66-9 113974-18-8  
442634-22-2  
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(compns. contg. reduced **folate** and **cobalamin** for treating **arthritic** conditions)

IT 59-30-3, **Folic acid**, biological studies  
RL: BSU (Biological study, unclassified); BIOL (Biological study)  
(compns. contg. reduced **folate**, but not **folic acid**, and **cobalamin** for treating **arthritic** conditions)

L67 ANSWER 2 OF 3 HCAPLUS COPYRIGHT 2002 ACS  
AN 2001:12196 HCAPLUS  
DN 134:55807  
TI Prophylactic dietary supplement based on milk  
IN Elliott, Robert Bartlett; Laugesen, Brian Murray  
PA The New Zealand Milk Institute Limited, N. Z.  
SO PCT Int. Appl., 32 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC ICM A23L001-305  
CC 17-8 (Food and Feed Chemistry)  
Section cross-reference(s): 63  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001000047	A1	20010104	WO 2000-NZ116	20000629
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE			
EP 1196047	A1	20020417	EP 2000-942589	20000629
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO			
PRAI NZ 1999-336505	A	19990629		
NZ 2000-504057	A	20000418		
WO 2000-NZ116	W	20000629		

AB Milk is commonly and extensively consumed in many societies where the risk

and incidence of diabetes, vascular disease (CHD, CVA, PVD) and some cancers are also high. Death is a frequent sequel of systemic vascular wall damage, resulting from exposure to high sugar levels in diabetes and also from high plasma homocyst(e)ine (tHcy) levels that affect much of the population and comprise a major risk factor for vascular disease. Diabetes is similarly widespread. Given (1) widespread and regular consumption of milk, (2) the possibility to control tHcy by treating the underlying **folate** (and other vitamin) insufficiency, (3) the opportunity to simply include control of neural tube defects and (4) the presumed causal link between diabetes and type A1 with type B casein consumption, the invention offers remediation by supplying a population with a modified milk or milk product including (1) fortification using **cobalamin**, pyridoxine, **folic acid**, and **betaine**, with (2) a substantially type A2 casein fraction only. In addn., exploitation of the immunol. properties of beta-casomorphin 9 (a peptide digest fraction of A2 beta-casein) may assist in control of diabetes. Practical and convenient fortified diets include treated, selected milk and food products including derivs. of milk, also selected milk together with treated cereals.

ST food supplement milk medication

IT Milk

(prophylactic dietary supplement based on milk)

IT Blood vessel, disease

(prophylactic dietary supplement based on milk for controlling)

IT Diabetes mellitus

(prophylactic dietary supplement based on milk for treatment of)

IT Diet

(supplements; prophylactic dietary supplement based on milk)

IT 6027-13-0, Homocysteine

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(prophylactic dietary supplement based on milk in relation to blood)

IT 59-30-3, **Folic acid**, biological studies 65-23-6,

Pyridoxine 107-43-7, **Betaine** 13408-78-1,

**Cobalamin**

RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prophylactic dietary supplement based on milk with)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Bristol-Myers Squibb Co; WO 9819690 1998 HCAPLUS

(2) Koehler; J of American Dietetic Association 1997, V97, P167 HCAPLUS

(3) Linnell; Bailliaere's Clinical Haematology 1995, V8, P567 MEDLINE

(4) Nutricia, N; EP 951842 1999 HCAPLUS

(5) Nutricia, N; WO 9903365 1999 HCAPLUS

(6) Parodi, P; The Australian J of Dairy Technology 1997, V52, P109 HCAPLUS

(7) Shapira, N; WO 9734497 HCAPLUS

(8) Shapira, N; WO 9913737 1999 HCAPLUS

L67 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2002 ACS

AN 1995:89751 HCAPLUS

DN 122:30375

TI The effect of **folate** and **cobalamin** on  
**osteoarthritic** hands

AU Flynn, Margaret A.; Irvin, William; Krause, Gary

CS Department of Family and Community Medicine, University of Missouri,  
Columbia, MO, USA

SO J. Am. Coll. Nutr. (1994), 13(4), 351-6

CODEN: JONUDL; ISSN: 0731-5724

DT Journal

LA, English

CC 18-2 (Animal Nutrition)

AB Historically diet and **arthritis** have been cause/effect assocd.

but the idea is controversial with little evidence that specific diet

components are effective treatment. This controlled, doubleblinded, crossover study reports the effect of **folate** and **cobalamin** supplements in 26 humans diagnosed for an av. 5.7 yr with idiopathic **osteoarthritis** of the hands who had been medicated by prescribed nonsteroidal anti-inflammatory drugs (NSAID). The subjects were randomly allocated to consume daily 6400 .mu.g folate or 6400 .mu.g **folate** plus 20 .mu.g **cobalamin** or lactose placebo each for 2 mo within self-selected diets. Pain was to be medicated by acetaminophen as needed, and at the end of each phase they returned for assessment and dispensing of the next treatment. For all subjects mean right and left hand grip values were higher with combined **cobalamin-folate** ingestion than with other "vitamin" supplements and were equiv. to NSAID use. No. of tender hand joints were greater with use of NSAID than with use of **cobalamin-folate**. Side effects with the vitamin combination were none; side effects of NSAID are many, and the cost of vitamins and acetaminophen also is lower. The limited no. of subjects in this study demonstrates that ingestion of a prescribed **cobalamin-folate** supplement and acetaminophen as needed resulted in pos. outcomes.

ST **folate cobalamin diet arthritis hand**

IT **Arthritis**

Hand

(dietary **folate** and **cobalamin** effect on  
**osteoarthritic** hands)

IT 59-30-3, biological studies 103-90-2, Acetaminophen  
13408-78-1, **Cobalamin**

RL: BAC (Biological activity or effector, except adverse); THU  
(Therapeutic use); BIOL (Biological study); USES (Uses)  
(dietary **folate** and **cobalamin** effect on  
**osteoarthritic** hands)

=> sel hit rn 167

E43 THROUGH E59 ASSIGNED

=> fil reg

FILE 'REGISTRY' ENTERED AT 10:13:28 ON 25 AUG 2002

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2002 American Chemical Society (ACS)

STRUCTURE FILE UPDATES: 24 AUG 2002 HIGHEST RN 444843-63-4

DICTIONARY FILE UPDATES: 24 AUG 2002 HIGHEST RN 444843-63-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES  
for more information. See STNote 27, Searching Properties in the CAS  
Registry File, for complete details:

<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

=> d ide can tot 168

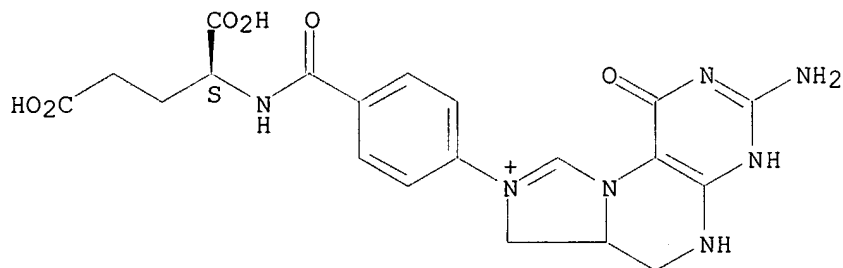
L68 ANSWER 1 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN **442634-22-2** REGISTRY

CN Imidazo[1,5-f]pteridinium, 3-amino-8-[4-[[[(1S)-1,3-  
dicarboxypropyl]amino]carbonyl]phenyl]-1,2,5,6,6a,7-hexahydro-1-oxo- (9CI)

(CA INDEX NAME)  
 FS STEREOSEARCH  
 MF C20 H22 N7 O6  
 SR CA  
 LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)  
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

L68 ANSWER 2 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 113974-18-8 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6S)-2-amino-1,4,5,6,7,8-hexahydro-5-(iminomethyl)-4-oxo-6-pteridiny]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Glutamic acid, N-[4-[[[2-amino-1,4,5,6,7,8-hexahydro-5-(iminomethyl)-4-oxo-6-pteridiny]methyl]amino]benzoyl]-, (S)-

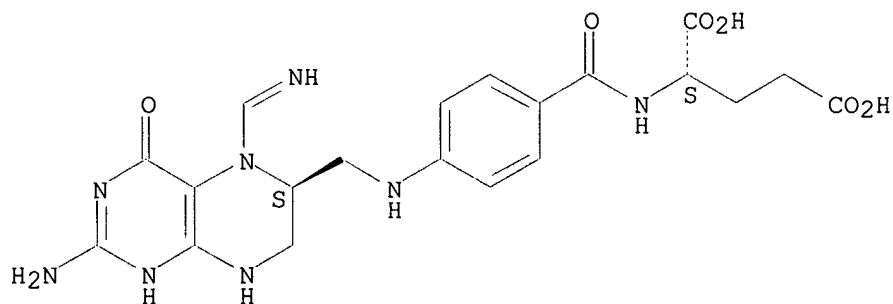
FS STEREOSEARCH

MF C20 H24 N8 O6

SR CA

LC STN Files: BEILSTEIN\*, CA, CAPLUS, USPATFULL  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

4 REFERENCES IN FILE CA (1967 TO DATE)  
 4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 131:78463

REFERENCE 3: 127:189892

REFERENCE 4: 108:182755

L68 ANSWER 3 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 74644-66-9 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6R)-2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny]methyl]formylamino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny]methyl]formylamino]benzoyl]-, (R)-

OTHER NAMES:

CN (6R)-10-Formyl-5,6,7,8-tetrahydrofolic acid

CN (6R)-10-Formyltetrahydrofolic acid

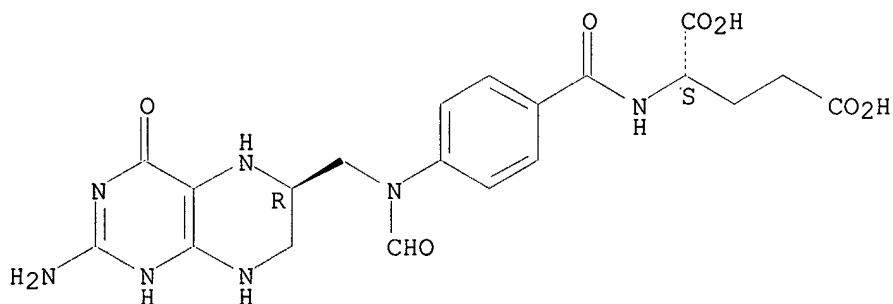
FS STEREOSEARCH

MF C20 H23 N7 O7

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

16 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

16 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 133:207735

REFERENCE 3: 132:30292

REFERENCE 4: 131:78463

REFERENCE 5: 127:189892

REFERENCE 6: 125:295895

REFERENCE 7: 118:73128

REFERENCE 8: 117:27104

REFERENCE 9: 112:72678

REFERENCE 10: 106:46382

L68 ANSWER 4 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 71963-69-4 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6S)-2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-, (S)-

OTHER NAMES:

CN (6S)-5,6,7,8-Tetrahydrofolic acid

CN (6S)-Tetrahydrofolic acid

FS STEREOSEARCH

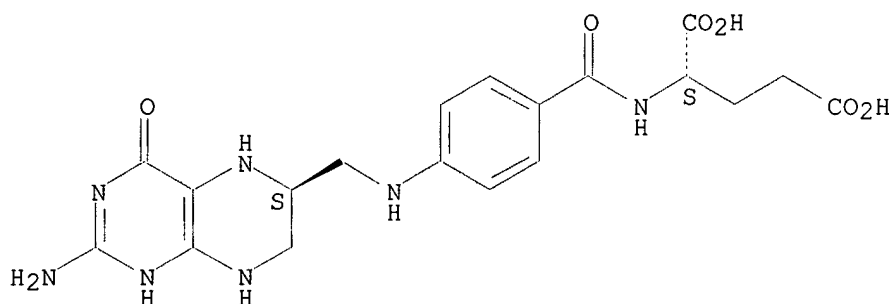
MF C19 H23 N7 O6

CI COM

LC STN Files: BEILSTEIN\*, BIOSIS, CA, CAPLUS, CASREACT, TOXCENTER, USPATFULL

(\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

55 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

55 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 135:314428

REFERENCE 3: 134:116234

REFERENCE 4: 134:101010

REFERENCE 5: 133:151045

REFERENCE 6: 132:194604

REFERENCE 7: 132:30292

REFERENCE 8: 131:78463

REFERENCE 9: 127:346621

REFERENCE 10: 127:189892

L68 ANSWER 5 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 68538-85-2 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6S)-2-amino-5-formyl-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)



## OTHER CA INDEX NAMES:

CN L-Glutamic acid, N-[4-[(2-amino-5-formyl-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny]methyl]amino]benzoyl]-, (S)-

## OTHER NAMES:

CN (6S)-5-Formyl-5,6,7,8-tetrahydrofolic acid

CN (6S)-Folinic acid

CN (6S)-Leucovorin

CN (S)-Leucovorin

CN Citrovorum factor

CN L-Folinic acid

CN LFP 754

FS STEREOSEARCH

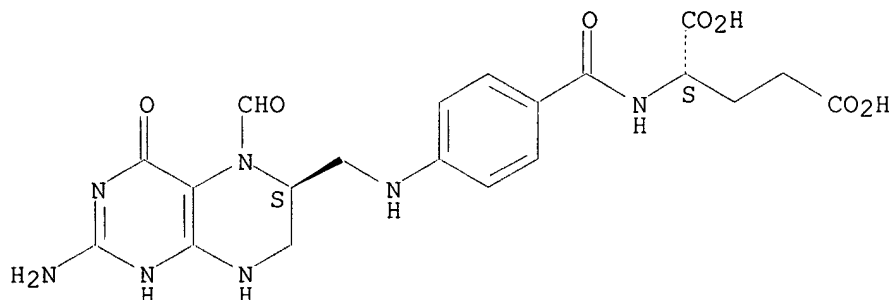
DR 121451-09-0

MF C20 H23 N7 O7

CI COM

LC STN Files: ADISNEWS, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, DDFU, DRUGPAT, DRUGU, EMBASE, MEDLINE, PROMT, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry. Rotation (-).



## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

139 REFERENCES IN FILE CA (1967 TO DATE)

5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

139 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 136:366953

REFERENCE 3: 136:350248

REFERENCE 4: 136:272804

REFERENCE 5: 135:352173

REFERENCE 6: 135:266712

REFERENCE 7: 135:236039

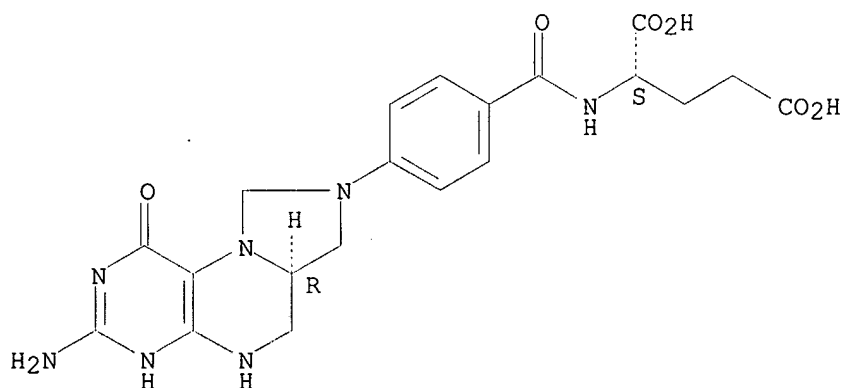
REFERENCE 8: 135:226285

REFERENCE 9: 135:210383

REFERENCE 10: 135:146901

.L68 ANSWER 6 OF 17 REGISTRY COPYRIGHT 2002 ACS  
 RN 31690-11-6 REGISTRY  
 CN L-Glutamic acid, N-[4-[(6aR)-3-amino-1,2,5,6,6a,7-hexahydro-1-oxoimidazo[1,5-f]pteridin-8(9H)-yl]benzoyl]- (9CI) (CA INDEX NAME)  
 OTHER CA INDEX NAMES:  
 CN Glutamic acid, N-[p-(3-amino-5,6,6a,7-tetrahydro-1-hydroxyimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]-, L-(+)- (8CI)  
 CN L-Glutamic acid, N-[4-(3-amino-1,2,5,6,6a,7-hexahydro-1-oxoimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]-, (R)-  
 OTHER NAMES:  
 CN (6R)-5,10-Methylene-5,6,7,8-tetrahydrofolic acid  
 CN (6R)-5,10-Methylenetetrahydrofolate  
 CN d-N5,N10-Methylene-L-tetrahydrofolic acid  
 CN L-(+)-Methylenetetrahydrofolic acid  
 FS STEREOSEARCH  
 DR 1596-87-8, 14357-00-7, 20302-77-6, 51353-86-7, 52746-47-1  
 MF C20 H23 N7 O6  
 CI COM  
 LC STN Files: BEILSTEIN\*, CA, CAPLUS, TOXCENTER, USPATFULL.  
 (\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

50 REFERENCES IN FILE CA (1967 TO DATE)  
 4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 50 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515  
 REFERENCE 2: 136:345818  
 REFERENCE 3: 135:284889  
 REFERENCE 4: 132:30292  
 REFERENCE 5: 131:78463  
 REFERENCE 6: 131:41426  
 REFERENCE 7: 129:51325

REFERENCE 8: 127:189892

REFERENCE 9: 126:274058

REFERENCE 10: 122:306039

L68 ANSWER 7 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 31690-09-2 REGISTRY

CN L-Glutamic acid, N-[4-[[[(6S)-2-amino-1,4,5,6,7,8-hexahydro-5-methyl-4-oxo-6-pteridiny]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-5-methyl-6-pteridiny]methyl]amino]benzoyl]-, L-(-)- (8CI)

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-5-methyl-4-oxo-6-pteridiny]methyl]amino]benzoyl]-, (S)-

OTHER NAMES:

CN (6S)-5-Methyltetrahydrofolic acid

CN 1-N5-Methyl-L-tetrahydrofolic acid

FS STEREOSEARCH

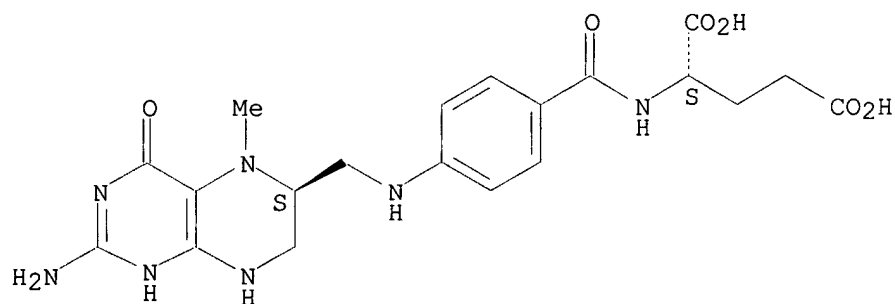
DR 150950-03-1

MF C20 H25 N7 O6

CI COM

LC STN Files: BEILSTEIN\*, CA, CAPLUS, IPA, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

47 REFERENCES IN FILE CA (1967 TO DATE)

3 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

47 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515

REFERENCE 2: 136:345818

REFERENCE 3: 134:349493

REFERENCE 4: 133:331357

REFERENCE 5: 132:30292

REFERENCE 6: 131:78463

REFERENCE 7: 131:69925

REFERENCE 8: 126:340207

REFERENCE 9: 124:110907

REFERENCE 10: 122:259142

L68 ANSWER 8 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN **13408-78-1** REGISTRY

CN Cobinamide, dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole-.kappa.N3), ion(1+) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cobinamide, hydroxide, ion(1+), dihydrogen phosphate (ester), inner salt, 3'-ester with 5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole

CN Cobinamide, hydroxide, ion(1+), dihydrogen phosphate (ester), inner salt, 3'-ester with 5,6-dimethyl-1-.alpha.-D-ribofuranosylbenzimidazole (8CI)

CN Cobinamide, ion(1+), dihydrogen phosphate (ester), inner salt, 3'-ester with 5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole

OTHER NAMES:

CN Cobalamin

CN Cobalamine

DR 58846-82-5

MF C62 H88 Co N13 O14 P

CI CCS, COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, NIOSHTIC, PROMT, TOXCENTER, USPATFULL

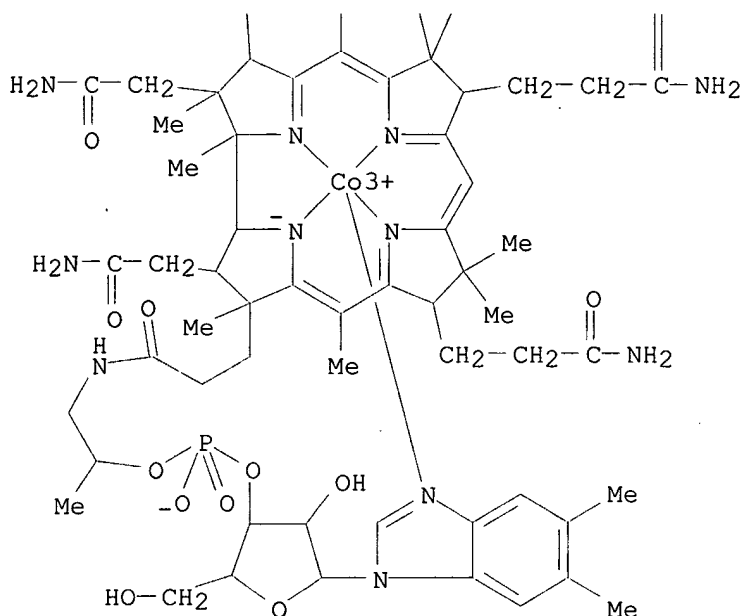
Other Sources: EINECS\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

PAGE 1-A



PAGE 2-A



885 REFERENCES IN FILE CA (1967 TO DATE)  
 149 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 885 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:124548  
 REFERENCE 2: 137:123889  
 REFERENCE 3: 137:114515  
 REFERENCE 4: 137:88425  
 REFERENCE 5: 137:74540  
 REFERENCE 6: 137:63184  
 REFERENCE 7: 137:57367  
 REFERENCE 8: 137:57290  
 REFERENCE 9: 137:16485  
 REFERENCE 10: 136:399942

L68 ANSWER 9 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN **10360-12-0** REGISTRY

CN Imidazo[1,5-f]pteridinium, 3-amino-8-[4-[[[(1S)-1,3-dicarboxypropyl]amino]carbonyl]phenyl]-1,2,5,6,6a,7-hexahydro-1-oxo-, (6aR)- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Imidazo[1,5-f]pteridinium, 3-amino-8-[4-[[[(1,3-dicarboxypropyl)amino]carbonyl]phenyl]-1,2,5,6,6a,7-hexahydro-1-oxo-

CN Imidazo[1,5-f]pteridinium, 3-amino-8-[p-[(1,3-dicarboxypropyl)carbamoyl]phenyl]-5,6,6a,7-tetrahydro-1-hydroxy- (8CI)

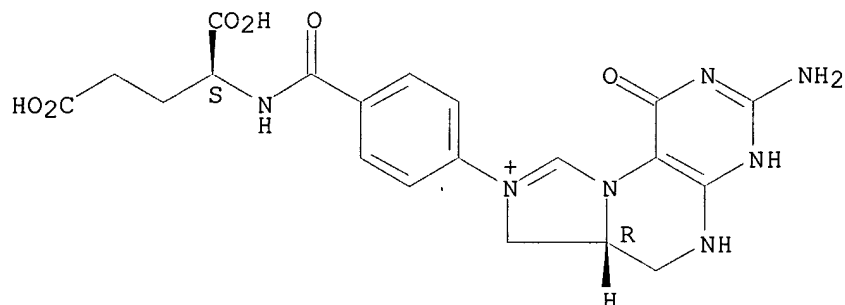
OTHER NAMES:

CN 5,10-Methenyltetrahydrofolic acid

CN Folic acid, tetrahydro-N9,N10-methylidene-

CN N5,N10-Methenyltetrahydrofolic acid  
 FS STEREOSEARCH  
 DR 16531-85-4, 102274-60-2, 65981-92-2, 73611-11-7, 88830-88-0, 40245-00-9,  
 49553-77-7  
 MF C20 H22 N7 O6  
 CI COM  
 LC STN Files: AGRICOLA, CA, CAPLUS, TOXCENTER, USPATFULL

Absolute stereochemistry.



80 REFERENCES IN FILE CA (1967 TO DATE)  
 5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 80 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 137:114515  
 REFERENCE 2: 136:345818  
 REFERENCE 3: 136:107523  
 REFERENCE 4: 136:11204  
 REFERENCE 5: 136:4848  
 REFERENCE 6: 135:357075  
 REFERENCE 7: 135:356337  
 REFERENCE 8: 135:148597  
 REFERENCE 9: 134:127680  
 REFERENCE 10: 133:219369

L68 ANSWER 10 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN **3432-99-3** REGISTRY

CN L-Glutamic acid, N-[4-(3-amino-1,2,5,6,6a,7-hexahydro-1-oxoimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-(3-amino-5,6,6a,7-tetrahydro-1-hydroxyimidazo[1,5-f]pteridin-8(9H)-yl)benzoyl]-, L- (8CI)

CN Imidazo[1,5-f]pteridine, L-glutamic acid deriv.

OTHER NAMES:

CN (+)-5,10-Methylene-5,6,7,8-tetrahydrofolic acid

CN 5,10-Methylene-5,6,7,8-tetrahydrofolic acid

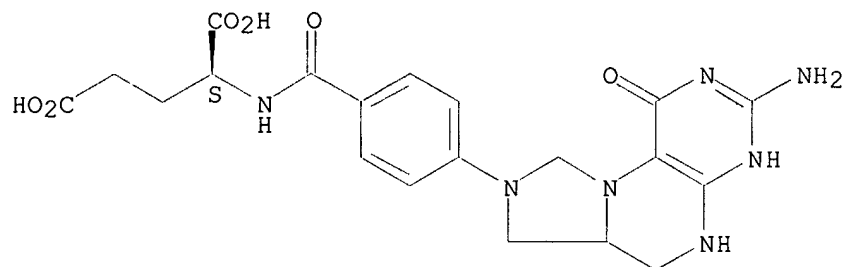
CN 5,10-Methylenetetrahydrofolic acid

CN Folic acid, tetrahydro-N5,N10-methylene-

CN N5,N10-Methylene-5,6,7,8-tetrahydrofolic acid

CN N5,N10-Methylenetetrahydrofolic acid  
CN N5,N10-Methylenetetrahydropteroylglutamic acid  
FS STEREOSEARCH  
DR 14948-92-6, 23284-08-4, 39939-22-5, 42578-82-5  
MF C20 H23 N7 O6  
CI COM  
LC STN Files: AGRICOLA, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,  
CANCERLIT, CAOLD, CAPLUS, CASREACT, DDFU, DRUGU, EMBASE, MEDLINE,  
TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

438 REFERENCES IN FILE CA (1967 TO DATE)  
51 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
438 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515  
REFERENCE 2: 137:29715  
REFERENCE 3: 136:345818  
REFERENCE 4: 136:163249  
REFERENCE 5: 136:107523  
REFERENCE 6: 136:11204  
REFERENCE 7: 136:4848  
REFERENCE 8: 135:357075  
REFERENCE 9: 135:355679  
REFERENCE 10: 135:315433

L68 ANSWER 11 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 2800-34-2 REGISTRY

CN L-Glutamic acid, N-[4-[[[2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny]methyl]formylamino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[N-[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-6-pteridiny]methyl]formamido]benzoyl]- (7CI)

CN Glutamic acid, N-[p-[N-[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-6-

pteridiny]methyl]formamido]benzoyl]-, L- (8CI)

## OTHER NAMES:

CN 10-Formyl-5,6,7,8-tetrahydrofolic acid  
 CN 10-Formyltetrahydrofolate  
 CN 10-Formyltetrahydrofolic acid  
 CN 10-Formyltetrahydropteroylglutamic acid  
 CN N10-Formyl-5,6,7,8-tetrahydrofolic acid  
 CN N10-Formyltetrahydrofolate  
 CN N10-Formyltetrahydrofolic acid  
 CN N10-Formyltetrahydropteroylglutamate

FS STEREOSEARCH

DR 18656-95-6

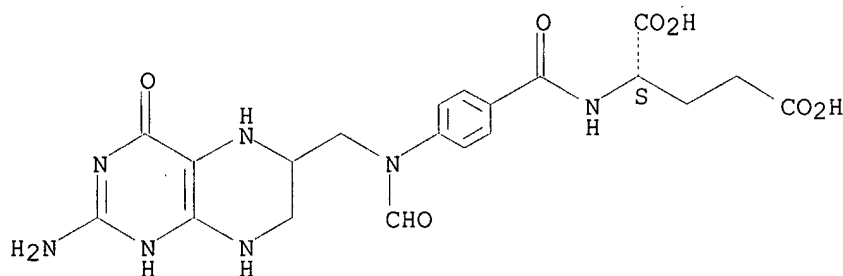
MF C20 H23 N7 O7

CI COM

LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, CA, CANCERLIT, CAOLD, CAPLUS, DDFU, DRUGU, EMBASE, MEDLINE, NIOSHTIC, TOXCENTER, USPATFULL

(\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

278 REFERENCES IN FILE CA (1967 TO DATE)  
 5 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 278 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
 22 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515  
 REFERENCE 2: 136:397744  
 REFERENCE 3: 136:345818  
 REFERENCE 4: 136:306536  
 REFERENCE 5: 136:107523  
 REFERENCE 6: 136:83063  
 REFERENCE 7: 136:11204  
 REFERENCE 8: 136:4848  
 REFERENCE 9: 135:357075  
 REFERENCE 10: 135:355679



L68 ANSWER 12 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 2311-81-1 REGISTRY

CN L-Glutamic acid, N-[4-[[[2-amino-1,4,5,6,7,8-hexahydro-5-(iminomethyl)-4-oxo-6-pteridiny]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[[2-amino-5-formimidoyl-5,6,7,8-tetrahydro-4-hydroxy-6-pteridiny]methyl]amino]benzoyl]- (6CI, 7CI)

CN Glutamic acid, N-[p-[[[2-amino-5-formimidoyl-5,6,7,8-tetrahydro-4-hydroxy-6-pteridiny]methyl]amino]benzoyl]-, L- (8CI)

CN L-Glutamic acid, N-[4-[[[2-amino-3,4,5,6,7,8-hexahydro-5-(iminomethyl)-4-oxo-6-pteridiny]methyl]amino]benzoyl]-

OTHER NAMES:

CN 5-Formiminotetrahydrofolic acid

CN Formiminotetrahydrofolic acid

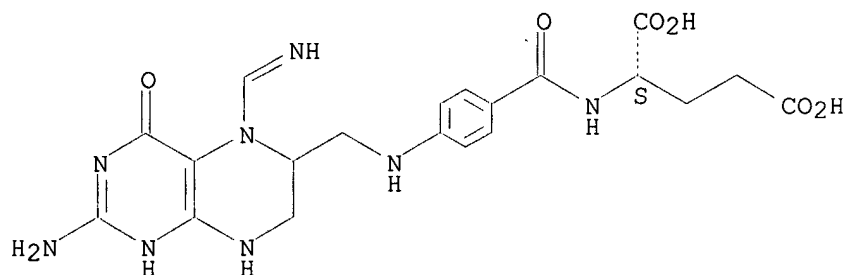
FS STEREOSEARCH

DR 7643-76-7, 42578-83-6

MF C20 H24 N8 O6

LC STN Files: BEILSTEIN\*, CA, CAOLD, CAPLUS, TOXCENTER, USPATFULL  
(\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

14 REFERENCES IN FILE CA (1967 TO DATE)  
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
14 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
7 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515

REFERENCE 2: 135:357075

REFERENCE 3: 134:320864

REFERENCE 4: 133:175691

REFERENCE 5: 129:199794

REFERENCE 6: 118:37975

REFERENCE 7: 116:209567

REFERENCE 8: 112:50439

REFERENCE 9: 110:207630

REFERENCE 10: 103:192265

L68 ANSWER 13 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 135-16-0 REGISTRY

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[[(2-amino-3,4,5,6,7,8-hexahydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-, L- (7CI, 8CI)

OTHER NAMES:

CN (-)-L-5,6,7,8-Tetrahydrofolic acid

CN 5,6,7,8-Tetrahydrofolic acid

CN L-5,6,7,8-Tetrahydrofolic acid

CN Tetrahydrofolic acid

CN Tetrahydropteroylglutamic acid

CN THFA

FS STEREOSEARCH

DR 60201-89-0, 18632-03-6, 14231-42-6, 15582-27-1, 4172-42-3

MF C19 H23 N7 O6

CI COM

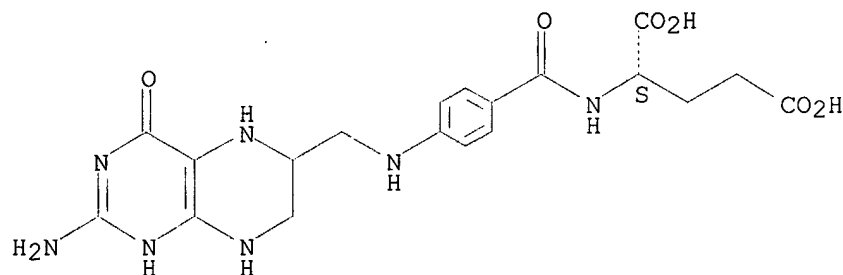
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMLIST, CIN, CSCHEM, DDFU, DRUGU, EMBASE, IPA, MSDS-OHS, PIRA, PROMT, RTECS\*, TOXCENTER, USPATFULL, VETU

(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

849 REFERENCES IN FILE CA (1967 TO DATE)

65 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

849 REFERENCES IN FILE CAPLUS (1967 TO DATE)

3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515

REFERENCE 2: 137:90132

REFERENCE 3: 137:90059

REFERENCE 4: 137:88425

REFERENCE 5: 137:60320

REFERENCE 6: 137:59018

REFERENCE 7: 137:57568

REFERENCE 8: 137:37398

REFERENCE 9: 137:20068

REFERENCE 10: 136:382040

L68 ANSWER 14 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 134-35-0 REGISTRY

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4,5,6,7,8-hexahydro-5-methyl-4-oxo-6-pteridiny]methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[[[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-5-methyl-6-pteridiny]methyl]amino]benzoyl]- (6CI)

CN Glutamic acid, N-[p-[[[(2-amino-5,6,7,8-tetrahydro-4-hydroxy-5-methyl-6-pteridiny]methyl]amino]benzoyl]-, L- (8CI)

OTHER NAMES:

CN 5-Methyl-5,6,7,8-tetrahydrofolic acid

CN 5-Methyl-5,6,7,8-tetrahydropteroyl-L-glutamic acid

CN 5-Methyltetrahydrofolic acid

CN 5-Methyltetrahydropteroyl monoglutamate

CN 5-Methyltetrahydropteroylglutamic acid

CN N-Methyltetrahydrofolate

CN N-Methyltetrahydrofolic acid

CN N5-Methyltetrahydrofolate

CN N5-Methyltetrahydrofolic acid

CN N5-Methyltetrahydropteroylglutamate

CN Prefolic A

FS STEREOSEARCH

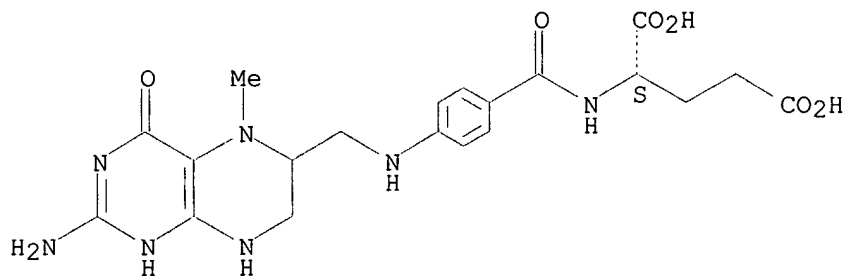
DR 3922-58-5, 76937-22-9

MF C20 H25 N7 O6

CI COM

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CIN, DDFU, DRUGU, EMBASE, IPA, MEDLINE, NIOSHTIC, PROMT, TOXCENTER, USPATFULL, VETU  
(\*File contains numerically searchable property data)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1016 REFERENCES IN FILE CA (1967 TO DATE)

21 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1018 REFERENCES IN FILE CAPLUS (1967 TO DATE)

16 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:114515

REFERENCE 2: 137:74540

REFERENCE 3: 137:57568  
REFERENCE 4: 137:41508  
REFERENCE 5: 136:345818  
REFERENCE 6: 136:278642  
REFERENCE 7: 136:262429  
REFERENCE 8: 136:216022  
REFERENCE 9: 136:216020  
REFERENCE 10: 136:164421

L68 ANSWER 15 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 107-43-7 REGISTRY

CN Methanaminium, 1-carboxy-N,N,N-trimethyl-, inner salt (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Ammonium compounds, substituted, (carboxymethyl)trimethyl-, hydroxide, inner salt (7CI)

CN Betaine (8CI)

CN Methanaminium, 1-carboxy-N,N,N-trimethyl-, hydroxide, inner salt

OTHER NAMES:

CN (Carboxymethyl)trimethylammonium hydroxide inner salt

CN (Trimethylammonio)acetate

CN .alpha.-Earleine

CN Abromine

CN Aminocoat

CN Aquadew AN 100

CN Betafin

CN Betafin BCR

CN Betafin BP

CN Cystadane

CN FinnStim

CN Glycine betaine

CN Glycine, trimethylbetaine

CN Glycocoll betaine

CN Glycylbetaine

CN Greenstim

CN Loramine AMB 13

CN Lycine

CN N,N,N-Trimethylglycine

CN Oxyneurine

CN Rubrine C

CN Trimethylglycine

CN Trimethylglycocoll

FS 3D CONCORD

DR 11042-12-9, 590-30-7, 24980-93-6, 45631-77-4

MF C5 H11 N O2

CI COM

LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM\*, DIOGENES, DRUGU, EMBASE, GMELIN\*, HODOC\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, PHAR, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VETU  
(\*File contains numerically searchable property data)

Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

$\text{Me}_3^+\text{N}-\text{CH}_2-\text{CO}_2^-$

3417 REFERENCES IN FILE CA (1967 TO DATE)  
538 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
3422 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:129563  
REFERENCE 2: 137:124481  
REFERENCE 3: 137:124272  
REFERENCE 4: 137:121061  
REFERENCE 5: 137:119269  
REFERENCE 6: 137:114511  
REFERENCE 7: 137:114201  
REFERENCE 8: 137:108448  
REFERENCE 9: 137:106179  
REFERENCE 10: 137:105978

L68 ANSWER 16 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 59-30-3 REGISTRY

CN L-Glutamic acid, N-[4-[(2-amino-1,4-dihydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Folic acid (8CI)

OTHER NAMES:

CN Acifolic

CN Cytofol

CN Dosfolat B activ

CN Folacid

CN Folacin

CN Folbal

CN Folcidin

CN Folettes

CN Foliamin

CN Folipac

CN Folsan

CN Folsaure

CN Folsav

CN Folvite

CN Incafolic

CN Liver Lactobacillus casei factor

CN Millafol

CN NSC 3073

CN PGA

CN Pteroyl-L-glutamic acid

CN Pteroyl-L-monoglutamic acid

CN Pteroylglutamic acid

CN Pteroylmonoglutamic acid

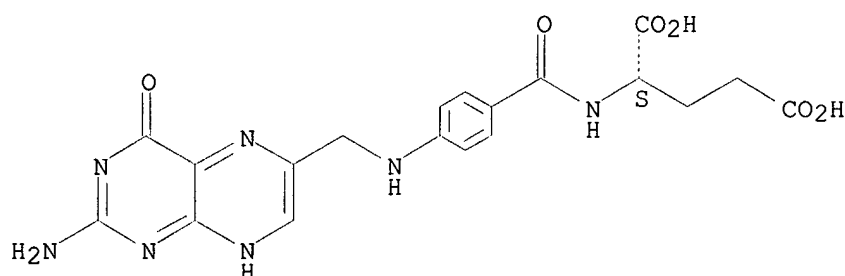
CN Vitamin Bc

CN Vitamin Be

CN Vitamin M

FS STEREOSEARCH  
 DR 33609-88-0  
 MF C19 H19 N7 O6  
 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DIOGENES, DRUGU, EMBASE, GMELIN\*, HODOC\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, NIOSHTIC, PHARMASEARCH, PIRA, PROMT, RTECS\*, SPECINFO, TOXCENTER, USAN, USPAT2, USPATFULL, VETU  
 (\*File contains numerically searchable property data)  
 Other Sources: DSL\*\*, EINECS\*\*, TSCA\*\*, WHO  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

9027 REFERENCES IN FILE CA (1967 TO DATE)  
 840 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 9035 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
 9 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:129914

REFERENCE 2: 137:129885

REFERENCE 3: 137:129881

REFERENCE 4: 137:125539

REFERENCE 5: 137:125178

REFERENCE 6: 137:124541

REFERENCE 7: 137:123534

REFERENCE 8: 137:123313

REFERENCE 9: 137:123296

REFERENCE 10: 137:122570

L68 ANSWER 17 OF 17 REGISTRY COPYRIGHT 2002 ACS

RN 58-05-9 REGISTRY

CN L-Glutamic acid, N-[4-[(2-amino-5-formyl-1,4,5,6,7,8-hexahydro-4-oxo-6-pteridiny)methyl]amino]benzoyl]- (9CI) (CA INDEX NAME)

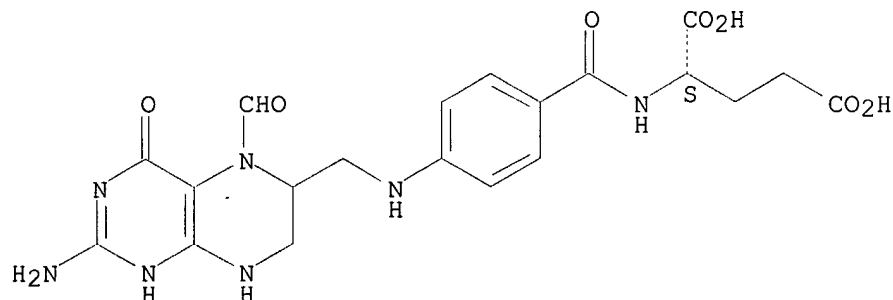
OTHER CA INDEX NAMES:

CN Glutamic acid, N-[p-[(2-amino-5-formyl-5,6,7,8-tetrahydro-4-hydroxy-6-pteridiny)methyl]amino]benzoyl]-, L- (8CI)

## OTHER NAMES:

CN 10-Formyl-7,8-dihydrofolic acid  
 CN 5-Formyl-5,6,7,8-tetrahydrofolic acid  
 CN 5-Formyltetrahydrofolic acid  
 CN 5-Formyltetrahydropteroylglutamic acid  
 CN Folinic acid  
 CN Folinic acid-SF  
 CN l-Leucovorin  
 CN Leucal  
 CN Leucoverin  
 CN Leucovorin  
 CN Levoleucovorin  
 CN N5-Formyl-5,6,7,8-tetrahydrofolic acid  
 CN N5-Formyltetrahydrofolic acid  
 CN Welcovorin  
 FS STEREOSEARCH  
 DR 641-41-8, 121521-95-7, 17435-36-8, 3102-53-2, 33299-78-4, 34786-59-9,  
 40244-99-3  
 MF C20 H23 N7 O7  
 CI COM  
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN\*, BIOBUSINESS, BIOSIS,  
 BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,  
 CHEMLIST, CIN, CSCHEM, DDFU, DIOGENES, DRUGU, EMBASE, HODOC\*, HSDB\*,  
 IPA, MEDLINE, MRCK\*, MSDS-OHS, NAPRALERT, NIOSHTIC, PHARMASEARCH, PROMT,  
 TOXCENTER, USAN, USPATFUL, VETU  
 (\*File contains numerically searchable property data)  
 Other Sources: EINECS\*\*  
 (\*\*Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



## \*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1744 REFERENCES IN FILE CA (1967 TO DATE)  
 38 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA  
 1744 REFERENCES IN FILE CAPLUS (1967 TO DATE)  
 10 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 137:119643  
 REFERENCE 2: 137:119250  
 REFERENCE 3: 137:119139  
 REFERENCE 4: 137:114515  
 REFERENCE 5: 137:103549  
 REFERENCE 6: 137:103542

REFERENCE 7: 137:98838

REFERENCE 8: 137:90156

REFERENCE 9: 137:88442

REFERENCE 10: 137:88084

=> d 124 ide can

L24 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS

RN 150566-31-7 REGISTRY

CN L-Glutamic acid, N-[4-[[[2-amino-1,4-dihydro-4-oxo-6-pteridinyl)methyl]amino]benzoyl]-, mixt. with 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methylthiazolium chloride and salt with cobinamide dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole-.kappa.N3) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Cobinamide, ion(1+), dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole-.kappa.N3), mixt. contg. (9CI)

CN Thiazolium, 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methyl- chloride, mixt. contg. (9CI)

FS STEREOSEARCH

MF C62 H88 Co N13 O14 P . C19 H19 N7 O6 . C12 H17 N4 O S . Cl

CI MXS

SR CA

LC STN Files: CA, CAPLUS, TOXCENTER

CM 1

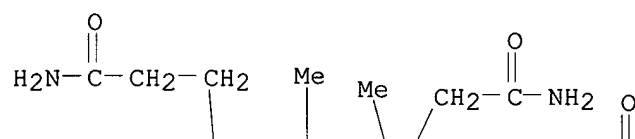
CRN 13408-78-1

CMF C62 H88 Co N13 O14 P

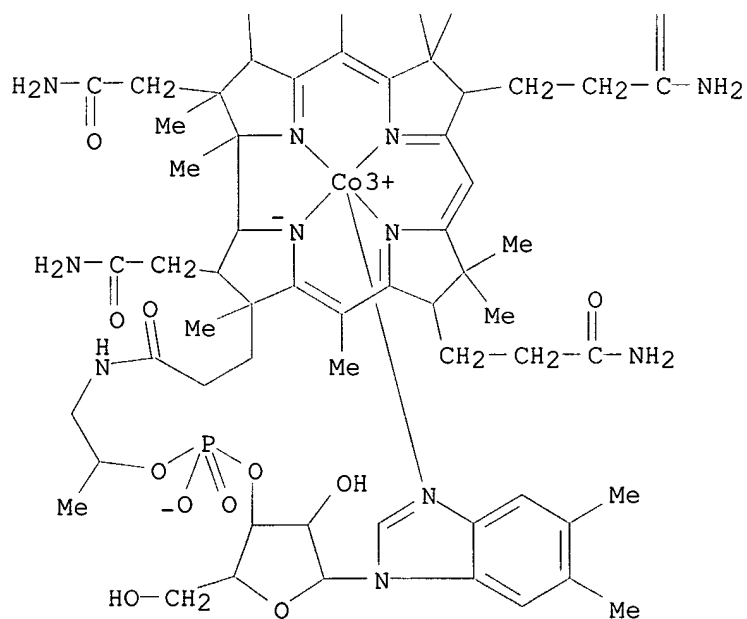
CCI CCS



PAGE 1-A

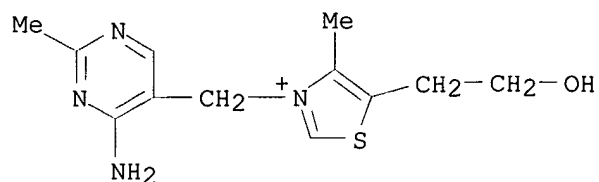


PAGE 2-A



CM 2

CRN 59-43-8 (70-16-6)  
CMF C12 H17 N4 O S . Cl

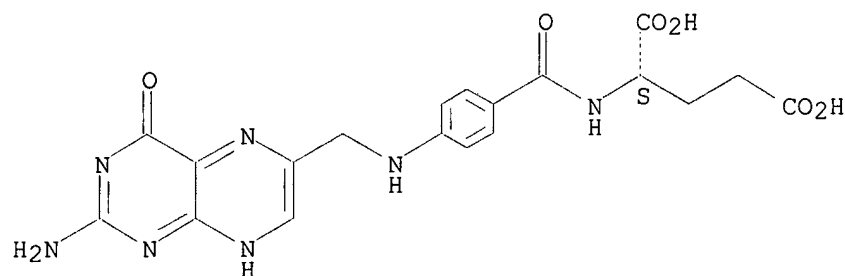


CM 3

CRN 59-30-3

CMF C19 H19 N7 O6

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 119:197662

=&gt; fil hcaplus

FILE 'HCAPLUS' ENTERED AT 10:18:05 ON 25 AUG 2002

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

COPYRIGHT (C) 2002 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 25 Aug 2002 VOL 137 ISS 9

FILE LAST UPDATED: 23 Aug 2002 (20020823/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please

check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> d all hitstr 126

L26 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2002 ACS

AN 1993:597662 HCAPLUS

DN 119:197662

TI mixts. of folic acid, thiamin and cobalamin derivs. as drugs for the prevention and treatment of neurological and psychiatric damages from alcoholism.

IN Loew, Dieter; Haller, Claus-Peter; Woerwag, Fritz

PA Woerwag Pharma GmbH, Germany

SO Ger. Offen., 5 pp.

CODEN: GWXXBX

DT Patent

LA German

IC ICM A61K031-51

ICS A61K031-505

CC 4-7 (Toxicology)

Section cross-reference(s): 63

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4206422	A1	19930902	DE 1992-4206422	19920229
	DE 4206422	C2	19960711		
	EP 558960	A1	19930908	EP 1993-102029	19930210
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	HU 64230	A2	19931228	HU 1993-534	19930226
	HU 213095	B	19970228		
	PL 171450	B1	19970430	PL 1993-297880	19930226
PRAI	DE 1992-4206422		19920229		
AB	The title compn. comprises folic acid or its derivs., such a tetrahydrofolic acid or folinic acid, thiamin derivs., such as benfotiamine or acetiamine-HCl, and cobalamins, such as cyanocobalamin. Capsules contained folic acid 10.0, cyanocobalamin 0.3, and benfotiamine 50,0 mg/capsule.				
ST	alcoholism drug folate thiamin cobalamin; pharmaceutical alcoholism folate thiamin cobalamin; neurol psychiatric damage alcoholism treatment				
IT	64-17-5, Ethanol, biological studies				
	RL: BIOL (Biological study)				
	(dependence on, neurol. and psychiatric damage in, treatment of, mixts. of folic acid, thiamin and cobalamin derivs. for)				
IT	58-05-9D, Folinic acid, mixts. with cobalamin and thiamin derivs.				
	59-30-3D, Folic acid, mixts. with cobalamin and thiamin derivs.				
	59-43-8D, Vitamin B1, mixts. with cobalamin and folic acid derivs.				
	67-03-8D, Thiamin hydrochloride, mixts. with cobalamin and folic acid derivs.				
	67-16-3D, Thiamine disulfide, mixts. with cobalamin and folic acid derivs.				
	68-19-9D, Cyanocobalamin, mixts. with folic acid and thiamin derivs.				
	135-16-0D, Tetrahydrofolic acid, mixts. with cobalamin and thiamin derivs.				
	137-86-0D, mixts. with cobalamin and folic acid derivs.				
	154-87-0D, Thiamin pyrophosphate, mixts. with cobalamin and folic acid derivs.				
	532-40-1D, mixts. with cobalamin and folic acid derivs.				
	532-43-4D, mixts. with cobalamin and folic acid derivs.				
	635-97-2D, mixts. with cobalamin and folic acid derivs.				
	804-30-8D, Fursultiamin, mixts. with cobalamin and folic acid derivs.				
	2667-89-2D, mixts. with cobalamin and folic acid derivs.				
	10238-39-8D, mixts. with cobalamin and folic acid derivs.				
	13422-51-0D, Hydroxycobalamin, mixts. with folic acid and thiamin derivs.				
	13422-55-4D, Methylcobalamin, mixts. with folic acid and thiamin derivs.				
	13457-21-1D, mixts. with cobalamin and folic acid derivs.				
	13870-90-1D, mixts. with folic acid and thiamin derivs.				
	14191-96-9D, mixts. with cobalamin and folic acid derivs.				

22457-89-2D, Benfotiamine, mixts. with cobalamin and folic acid derivs.  
 85187-36-6D, mixts. with cobalamin and folic acid derivs.

**150566-31-7**

RL: BIOL (Biological study)

(neurol. and psychiatric damage treatment by, in alcoholism)

IT **150566-31-7**

RL: BIOL (Biological study)

(neurol. and psychiatric damage treatment by, in alcoholism)

RN 150566-31-7 HCAPLUS

CN L-Glutamic acid, N-[4-[[[(2-amino-1,4-dihydro-4-oxo-6-pteridiny]methyl]amino]benzoyl]-, mixt. with 3-[(4-amino-2-methyl-5-pyrimidinyl)methyl]-5-(2-hydroxyethyl)-4-methylthiazolium chloride and salt with cobinamide dihydrogen phosphate (ester), inner salt, 3'-ester with (5,6-dimethyl-1-.alpha.-D-ribofuranosyl-1H-benzimidazole-.kappa.N3) (9CI) (CA INDEX NAME)

CM 1

CRN 13408-78-1

CMF C62 H88 Co N13 O14 P

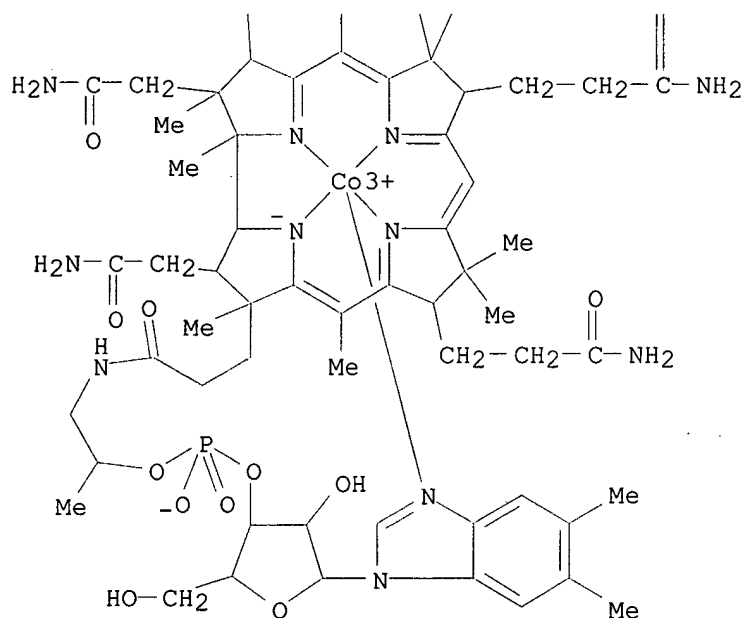
CCI CCS

CDES 6:COBIN-F(A-D-RIBO)

PAGE 1-A



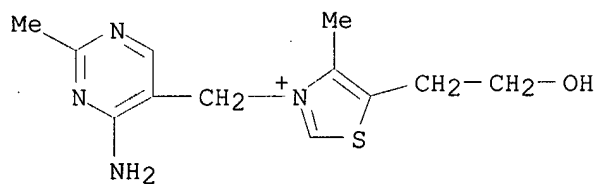
PAGE 2-A



CM 2

CRN 59-43-8

CMF C12 H17 N4 O S . Cl

● Cl<sup>-</sup>

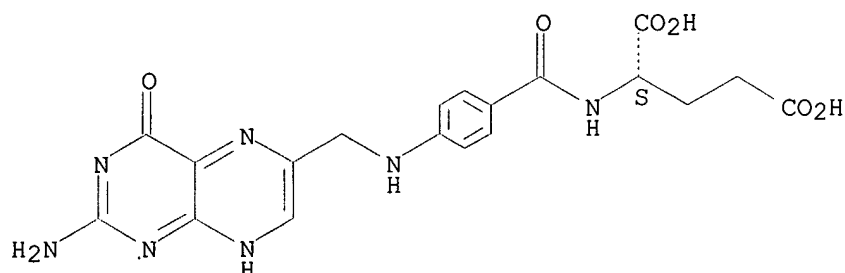
CM 3

CRN 59-30-3

CMF C19 H19 N7 O6

CDES 5:L

Absolute stereochemistry.



=> fil wpix

FILE 'WPIX' ENTERED AT 10:37:42 ON 25 AUG 2002  
COPYRIGHT (C) 2002 THOMSON DERWENT

FILE LAST UPDATED: 23 AUG 2002 <20020823/UP>  
MOST RECENT DERWENT UPDATE 200254 <200254/DW>  
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> SLART (Simultaneous Left and Right Truncation) is now  
available in the /ABEX field. An additional search field  
/BIX is also provided which comprises both /BI and /ABEX <<<

>>> The BATCH option for structure searches has been  
enabled in WPINDEX/WPIDS and WPIX <<<

>>> PATENT IMAGES AVAILABLE FOR PRINT AND DISPLAY <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES,  
SEE <http://www.derwent.com/dwpi/updates/dwpicov/index.html> <<<

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE,  
PLEASE VISIT:  
[http://www.stn-international.de/training\\_center/patents/stn\\_guide.pdf](http://www.stn-international.de/training_center/patents/stn_guide.pdf) <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER  
GUIDES, PLEASE VISIT:  
[http://www.derwent.com/userguides/dwpi\\_guide.html](http://www.derwent.com/userguides/dwpi_guide.html) <<<

=> d all abeq tech abex tot

L90 ANSWER 1 OF 2 WPIX (C) 2002 THOMSON DERWENT

AN 2001-112363 [12] WPIX

DNC C2001-033401

TI Prophylactic dietary supplement for reducing incidence of cardio, cerebro  
vascular diseases and diabetes in a population, contains milk or its  
products fortified with **betaine**, **cobalamin**,  
**folic acid** or pyridoxine.

DC B05 D13

IN ELLIOTT, R B; LAUGESSEN, B M

PA (NZMI-N) NEW ZEALAND MILK INST LTD

CYC 94

PI WO 2001000047 A1 20010104 (200112)\* EN 32p A23L001-305

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ  
NL PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM  
DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC  
LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE  
SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000057192 A 20010131 (200124) A23L001-305  
 EP 1196047 A1 20020417 (200233) EN A23L001-305  
 R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT  
 RO SE SI

ADT WO 2001000047 A1 WO 2000-NZ116 20000629; AU 2000057192 A AU 2000-57192  
 20000629; EP 1196047 A1 EP 2000-942589 20000629, WO 2000-NZ116 20000629  
 FDT AU 2000057192 A Based on WO 200100047; EP 1196047 A1 Based on WO 200100047  
 PRAI NZ 2000-504057 20000418; NZ 1999-336505 19990629  
 IC ICM A23L001-305  
 AB WO 200100047 A UPAB: 20010302

NOVELTY - A dietary supplement (I) comprises a milk or milk product, fortified by addition of **betaine, cobalamin, folic acid**, pyridoxine or their analogs and when consumed it is capable of reducing plasma levels of homocyst(e)ine (tHcy), thereby capable of reducing the incidence of vascular disease (VaD), particularly cardiovascular disease and cerebrovascular disease, in a mammalian population.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the use in the manufacture of a dietary supplement, of an effective amount of **betaine, cobalamin, folic acid**, pyridoxine or their analogs with a fraction derived from milk, when consumed being capable of reducing tHcy and VaD in a population.

ACTIVITY - Cardiant; antidiabetic.

MECHANISM OF ACTION - None given.

USE - (I) is useful for reducing the incidence of neural tube defects, peripheral vascular diseases, cardiovascular and cerebrovascular disease, diabetes type I and II or degeneration of blood vessel walls in a mammalian population (claimed).

ADVANTAGE - (I) provides sufficient daily **folate** to avoid neural tube defects and improves health of human population without actual medication.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: B03-D; **B03-E**; B04-B04K; B04-N02; B06-D09; B10-A22; B14-F01; B14-F02; D03-H01T2

TECH UPTX: 20010302

TECHNOLOGY FOCUS - FOOD - Preferred Composition: The concentration of **folic acid, cobalamin, pyridoxine** and **betaine** are such that an effective amount (for an adult human) of 300-500 mug, 4-7 mug, 1.5-4 mg and 100 mg-1 g, respectively intake per day is made available by consumption of the dietary supplement. The milk of the dietary supplement further has a bovine origin and a controlled beta-casein content comprising of A2 variant, excluding the A1 and B variants. A residue of digestion product of the A2 beta-casein, a relatively stable peptide known as beta-casomorphin 9 is capable of promoting an immune response within the body. The relatively stable active peptide beta-casomorphin 9 or its analog is included within a slow-release formulation in the supplement so as to be capable, on ingestion by an individual, of being released into the gut over a period of time, promoting immunity against diabetes. The active compound is assisted by the inclusion of an agent capable of enhancing a development of immunity within the dietary supplement.

ABEX

WIDER DISCLOSURE - Also disclosed are:

(1) a dairy product having undergone purification during the manufacturing procedure to eliminate beta-casein A1, B and even all casein; and  
 (2) preparing a fortified milk product.

EXAMPLE - A dietary supplement comprising milk fortified with beta-casein comprised of A2 variant was prepared and the effect of the supplement was studied using biobreeding rats. The control diet was Prosobee which is a soy preparation used as rat food. The spontaneous incidence of diabetes in the control population was 38 %. Rats fed Prosobee plus 10 % mixed casein

(A1 and A2) had an incidence of 27 %. Rats fed on Prosobee plus 10 % type A1 casein had an incidence of 45 % and rats fed on Prosobee plus 10 % type A2 casein had an incidence of 20 %. The incidence of diabetes in the A1 group was higher than that of the control group. The incidence of diabetes in the A2 group was significantly reduced and was the lowest of any group. These results indicated that beta-casomorphin 9, a digestion product of A2 beta-casein exerted a beneficial effect on the incidence of Type I diabetes, as an immunomodulator.

L90 ANSWER 2 OF 2 WPIX (C) 2002 THOMSON DERWENT

AN 1998-286587 [25] WPIX

DNC C1998-088733

TI Treating Alzheimer's disease or inhibiting micro-vascular events - by administering drug e.g. **folic acid** to reduce homo-cysteine levels.

DC B02 B04

IN JOBST, K A; SMITH, A D

PA (BRIM) BRISTOL-MYERS SQUIBB CO

CYC 74

PI WO 9819690 A1 19980514 (199825)\* EN 47p A61K038-00

RW: AT BE CH DE DK EA ES FI FR GB GH GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN

AU 9852442 A 19980529 (199841) A61K038-00

EP 951293 A1 19991027 (199950) EN A61K038-00

R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

US 6008221 A 19991228 (200007) A61K031-495

AU 719290 B 20000504 (200030) A61K038-00

US 6127370 A 20001003 (200050) A61K031-505

JP 2001504104 W 20010327 (200122) 45p A61K045-00

ADT WO 9819690 A1 WO 1997-US20021 19971104; AU 9852442 A AU 1998-52442 19971104; EP 951293 A1 EP 1997-947335 19971104; WO 1997-US20021 19971104; US 6008221 A Provisional US 1996-30642P 19961106, US 1997-959035 19971028; AU 719290 B AU 1998-52442 19971104; US 6127370 A Provisional US 1996-30642P 19961106, Div ex US 1997-959035 19971028, US 1999-435804 19991108; JP 2001504104 W WO 1997-US20021 19971104, JP 1998-521674 19971104

FDT AU 9852442 A Based on WO 9819690; EP 951293 A1 Based on WO 9819690; AU 719290 B Previous Publ. AU 9852442, Based on WO 9819690; US 6127370 A Div ex US 6008221; JP 2001504104 W Based on WO 9819690

PRAI US 1996-30642P 19961106; US 1997-959035 19971028; US 1999-435804 19991108

IC ICM A61K031-495; A61K031-505; A61K038-00; A61K045-00

ICS A01N033-10; A61K031-04; A61K031-40; A61K031-41; A61K031-4415; A61K031-50; A61K031-519; A61K031-55; A61K031-58; A61K031-71; A61K031-714; A61K038-04; A61K038-06; A61P009-00; A61P025-28

AB WO 9819690 A UPAB: 19980624

Treating occlusive vascular disease and Alzheimer's disease, or inhibiting microvascular events leading to ischaemia and/or neurodegeneration, comprises administration of a drug which causes a reduction in moderately elevated blood levels of homocysteine (HCy) and modifies the toxic effects of HCy on the vasculature or on nerve cells in the brain. Also claimed is a composition comprising folic acid, a folate or its derivatives and vitamin B12.

Preferably, the patient has at least moderately increased blood levels of homocysteine and at least moderately reduced blood levels of **folate** and **vitamin B12**. The drug is **folic acid**, a **folate** or its derivatives, **betaine** and/or **vitamin B12**. Preferably the drug is **folic acid** (pteroyl-monoglutamate), at least 1 folyl-polyglutamate, a compound in which the pyrazine ring of the pterin



group of **folic acid** or of the folylpolyglutamate is reduced to give **dihydrofolates** or **tetrahydrofolates** and/or derivatives of all the compounds in which the N-5 or N-10 positions carry 1C units, optionally oxidised. The drug is especially **folic acid, dihydrofolate, tetrahydrofolate, 5-methyltetrahydrofolate, 5,10-methylenetetrahydrofolate, 5,10-methenyltetrahydrofolate, 5,10-foriminotetrahydrofolate, 5-formyltetrahydrofolate** and/or **10-formyltetrahydrofolate**.

USE - The process is used for treating occlusive cerebral or peripheral disease, transient ischaemic attacks, intermittent claudication, vascular dementia, multi-infarct dementia, senile onset dementia, presenile dementia and Binswanger's disease. Administration includes oral and injectable formulations. The doses of **folic acid, folate**, or its derivatives, **betaine**, or **vitamin B6** are 0.1-100 (preferably 2-10) mg/day orally or 0.002-10 (preferably 0.01-3) mg/day parenterally. The dosage of **vitamin B12** is 0.001-10 (preferably 0.5-2.5) mg/day orally or 0.002-5 (preferably 0.01-3) mg/kg parenterally.

Dwg.0/2

FS CPI

FA AB; DCN

MC CPI: B03-D; **B03-E**; B06-D09; B07-D03; B10-A05; B10-A22; B14-J01A4

=> fil medline

FILE 'MEDLINE' ENTERED AT 10:50:17 ON 25 AUG 2002

FILE LAST UPDATED: 24 AUG 2002 (20020824/UP). FILE COVERS 1958 TO DATE.

On June 9, 2002, MEDLINE was reloaded. See HELP RLOAD for details.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2002 vocabulary. Enter HELP THESAURUS for details.

THIS FILE CONTAINS CAS REGISTRY NUMBERS FOR EASY AND ACCURATE SUBSTANCE IDENTIFICATION.

=> d all tot

L120 ANSWER 1 OF 6 MEDLINE

AN **87276486** MEDLINE

DN **87276486** PubMed ID: **3497055**

TI [Mechanism of the protective action of cobamamide and leucovorin on hematopoiesis in acute blood loss].

K mekhanizmu protektivnogo deistviia kobamamida i leikovorina na krovetvorenii pri ostroi krovopotere.

AU Mikhailov V V; Gerina L S; Neustroev G V; Avakumov V M

SO FARMAKOLOGIIA I TOKSIKOLOGIIA, (1987 May-Jun) 50 (3) 92-4.

Journal code: 16920420R. ISSN: 0014-8318.

CY USSR

DT Journal; Article; (JOURNAL ARTICLE)

LA Russian

FS Priority Journals

EM 198709

ED Entered STN: 19900305

Last Updated on STN: 19900305

Entered Medline: 19870916

AB Leucovorin and cobamamide administered alone and in combination potentiate the proliferative activity of the erythroid and myeloid cells of the bone marrow. There is lack in mutual potentiation of the drugs.

CT Check Tags: Animal; Comparative Study  
Bone Marrow: DE, drug effects

Bone Marrow Cells  
Cell Division: DE, drug effects  
\*Cobamides: TU, therapeutic use  
Drug Evaluation, Preclinical  
Drug Therapy, Combination  
English Abstract

\*Hematopoiesis: DE, drug effects  
Hemorrhage: BL, blood  
\*Hemorrhage: DT, drug therapy  
\*Leucovorin: TU, therapeutic use  
Rats  
Rats, Inbred Strains  
Stimulation, Chemical

RN 13870-90-1 (cobamamide); 58-05-9 (Leucovorin)  
CN 0 (Cobamides)

L120 ANSWER 2 OF 6 MEDLINE

AN 82196660 MEDLINE

DN 82196660 PubMed ID: 6979030

TI Treatment of fragile-X.

AU Harpey J P

SO PEDIATRICS, (1982 May) 69 (5) 670.

Journal code: 0376422. ISSN: 0031-4005.

CY United States

DT Letter

LA English

FS Abridged Index Medicus Journals; Priority Journals

EM 198207

ED Entered STN: 19900317

Last Updated on STN: 19990129

Entered Medline: 19820722

CT Check Tags: Case Report; Female; Human; Male  
Adolescence  
Adult

\*Chromosome Fragility

Folic Acid: TU, therapeutic use

Leucovorin: TU, therapeutic use

\*Mental Retardation: DT, drug therapy

Mental Retardation: GE, genetics

\*Sex Chromosome Aberrations

Vitamin B 12: TU, therapeutic use

RN 58-05-9 (Leucovorin); 59-30-3 (Folic Acid);  
68-19-9 (Vitamin B 12)

L120 ANSWER 3 OF 6 MEDLINE

AN 82192358 MEDLINE

DN 82192358 PubMed ID: 6978943

TI Tetrahydrofolate and hydroxocobolamin in the management of  
dihydropteridine reductase deficiency.

AU Leeming R J; Harpey J P; Brown S M; Blair J A

SO JOURNAL OF MENTAL DEFICIENCY RESEARCH, (1982 Mar) 26 (Pt 1) 21-5.

Journal code: 0375401. ISSN: 0022-264X.

CY ENGLAND: United Kingdom

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 198207

ED Entered STN: 19900317

Last Updated on STN: 19900317

Entered Medline: 19820719

CT Check Tags: Animal; Case Report; Human; In Vitro; Male; Support, Non-U.S.  
Gov't

Ascorbic Acid: TU, therapeutic use

Biopterin: BI, biosynthesis

Child, Preschool

\*Dihydropteridine Reductase: DF, deficiency

Hydroxocobalamin: PD, pharmacology

\*Hydroxocobalamin: TU, therapeutic use

Infant

Leucovorin: TU, therapeutic use

\*NADH, NADPH Oxidoreductases: DF, deficiency

Rats

Tetrahydrofolates: PD, pharmacology

\*Tetrahydrofolates: TU, therapeutic use

RN 134-35-0 (5-methyltetrahydrofolate); 13422-51-0  
(Hydroxocobalamin); 22150-76-1 (Biopterin); 50-81-7 (Ascorbic Acid);  
58-05-9 (Leucovorin)  
CN 0 (Tetrahydrofolates); EC 1.6. (NADH, NADPH Oxidoreductases); EC  
1.6.99.7 (Dihydropteridine Reductase)

L120 ANSWER 4 OF 6 MEDLINE

AN 80227072 MEDLINE

DN 80227072 PubMed ID: 6248475

TI Vitamins and alcoholism. II. folate and vitamin  
B12.

AU Bonjour J P

SO INTERNATIONAL JOURNAL FOR VITAMIN AND NUTRITION RESEARCH, (1980) 50 (1)  
96-121. Ref: 107

Journal code: 1273304. ISSN: 0300-9831.

CY Switzerland

DT Journal; Article; (JOURNAL ARTICLE)

General Review; (REVIEW)

LA English

FS Priority Journals

EM 198009

ED Entered STN: 19900315

Last Updated on STN: 19970203

Entered Medline: 19800923

CT Check Tags: Animal; Human

Alcoholism: CO, complications

\*Alcoholism: ME, metabolism

Beer

Bone Marrow Cells

Erythropoiesis

\*Folic Acid: ME, metabolism

Folic Acid: TU, therapeutic use

Folic Acid Deficiency

Formiminoglutamic Acid: ME, metabolism

Intestinal Absorption

Liver Diseases, Alcoholic: ME, metabolism

Nutrition Disorders: CO, complications

Peripheral Nervous System Diseases: ME, metabolism

Psychoses, Alcoholic: ME, metabolism

Tetrahydrofolates: ME, metabolism

Thrombocytopenia: ME, metabolism

\*Vitamin B 12: ME, metabolism

Vitamin B 12: TU, therapeutic use

Vitamin B 12 Deficiency

Wine

RN 59-30-3 (Folic Acid); 68-19-9 (Vitamin B 12); 816-90-0  
(Formiminoglutamic Acid)

CN 0 (Tetrahydrofolates)

L120 ANSWER 5 OF 6 MEDLINE

AN 76018646 MEDLINE

DN 76018646 PubMed ID: 1080667

TI [Identification and determination of folinic acid and **cobalamin** in combination].  
 Identificazione e determinazione di acido folinico e **cobalamine** in associazione.

AU Lotti B

SO BOLLETTINO CHIMICO FARMACEUTICO, (1975 Jul) 114 (7) 416-20.  
 Journal code: 0372534. ISSN: 0006-6648.

CY Italy

DT Journal; Article; (JOURNAL ARTICLE)

LA Italian

FS Priority Journals

EM 197512

ED Entered STN: 19900313  
 Last Updated on STN: 19900313  
 Entered Medline: 19751211

CT Chemistry, Pharmaceutical  
**Cobamides: AN, analysis**  
**Drug Combinations**  
 English Abstract  
**Hydroxocobalamin: AN, analysis**  
**\*Leucovorin: AN, analysis**  
**\*Vitamin B 12: AN, analysis**

RN 13422-51-0 (Hydroxocobalamin); 58-05-9 (Leucovorin);  
 68-19-9 (Vitamin B 12)

CN 0 (Cobamides); 0 (Drug Combinations)

L120 ANSWER 6 OF 6 MEDLINE

AN 72206931 MEDLINE

DN 72206931 PubMed ID: 4537527

TI [Treatment of viral hepatitis with an association of folinic acid and **hydroxycobalamin**].  
 Trattamento dell'epatite virale con un'associazione acido folinico-**idrossicobalamina**.

AU Carradori V

SO CLINICA TERAPEUTICA, (1972 Apr 30) 61 (2) 137-42.  
 Journal code: 0372604. ISSN: 0009-9074.

CY Italy

DT Journal; Article; (JOURNAL ARTICLE)

LA Italian

FS Priority Journals

EM 197208

ED Entered STN: 19900310  
 Last Updated on STN: 19900310  
 Entered Medline: 19720811

CT Check Tags: Female; Human; Male  
 Adolescence  
 Adult  
 Child  
 \*Hepatitis A: DT, drug therapy  
**\*Hydroxocobalamin: TU, therapeutic use**  
**\*Leucovorin: TU, therapeutic use**  
 Liver Function Tests  
 Middle Age

RN 13422-51-0 (Hydroxocobalamin); 58-05-9 (Leucovorin)

=> fil biosis

FILE 'BIOSIS' ENTERED AT 10:51:47 ON 25 AUG 2002  
 COPYRIGHT (C) 2002 BIOLOGICAL ABSTRACTS INC.(R)

FILE COVERS 1969 TO DATE.  
 CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT  
 FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 21 August 2002 (20020821/ED)

=> d all tot

L124 ANSWER 1 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 2000:299804 BIOSIS  
 DN PREV200000299804  
 TI Vitamin B6 status in rheumatoid arthritis (RA) patients: Correlations  
 between different methods of assessment and severity of disease symptoms.  
 AU Chiang, E.-P. (1); Roubenoff, R. (1); Selhub, J. (1);  
 Bagley, P. (1)  
 CS (1) USDA HNRCA at Tufts U, Boston, MA USA  
 SO FASEB Journal, (March 15, 2000) Vol. 14, No. 4, pp. A203. print.  
 Meeting Info.: Annual Meeting of Professional Research Scientists:  
 Experimental Biology 2000 San Diego, California, USA April 15-18, 2000  
 Federation of American Societies for Experimental Biology  
 . ISSN: 0892-6638.  
 DT Conference  
 LA English  
 SL English  
 CC Biochemical Studies - Vitamins \*10063  
 Biochemical Studies - Proteins, Peptides and Amino Acids \*10064  
 Enzymes - General and Comparative Studies; Coenzymes \*10802  
 Nutrition - Malnutrition; Obesity \*13203  
 Immunology and Immunochemistry - Immunopathology, Tissue Immunology  
 \*34508  
 Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
 Nutrition - General Studies, Nutritional Status and Methods \*13202  
 General Biology - Symposia, Transactions and Proceedings of Conferences,  
 Congresses, Review Annuals \*00520  
 BC Hominidae 86215  
 IT Major Concepts  
 Rheumatology (Human Medicine, Medical Sciences); Nutrition  
 IT Diseases  
 rheumatoid arthritis: connective tissue disease, immune system disease,  
 joint disease; vitamin B-6 deficiency: nutritional disease  
 IT Chemicals & Biochemicals  
 aspartate aminotransferase: erythrocyte; homocysteine: plasma;  
 pyridoxal 5' phosphate: plasma; vitamin B-6  
 IT Alternate Indexing  
 Arthritis, Rheumatoid (MeSH)  
 IT Miscellaneous Descriptors  
 erythrocyte sedimentation rate; Meeting Abstract  
 ORGN Super Taxa  
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
 ORGN Organism Name  
 human (Hominidae): patient  
 ORGN Organism Superterms  
 Animals; Chordates; Humans; Mammals; Primates; Vertebrates  
 RN 9000-97-9 (ASPARTATE AMINOTRANSFERASE)  
 454-29-5Q (HOMOCYSTEINE)  
 6027-13-0Q (HOMOCYSTEINE)  
 54-47-7 (PYRIDOXAL 5' PHOSPHATE)  
 8059-24-3 (VITAMIN B-6)

L124 ANSWER 2 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1999:531194 BIOSIS  
 DN PREV199900531194  
 TI The effect of menopausal status and exogenous estrogen on homocysteine in  
 systemic lupus erythematosus.  
 AU Petri, M.; Buyon, J.; Magder, L.; Roubenoff, R.; Selhub,

J.; Alarcon, G.; Belmont, M.; Dooley, M. A.; Grossman, J.; Hahn, B.; Hearth-Holmes, M.; Kalunian, K.; Kim, M.; Lockshin, M.; Manzi, S.; McCune, J.; Merrill, J.; Sammaritano, L.; Von Feldt, J.; Wachs, J.  
 SO Arthritis & Rheumatism, (Sept., 1999) Vol. 42, No. 9 SUPPL., pp. S148.  
 Meeting Info.: 63rd Annual Scientific Meeting of the American College of Rheumatology and the 34th Annual Scientific Meeting of the Association of Rheumatology Health Professionals Boston, Massachusetts, USA November 13-17, 1999  
 ISSN: 0004-3591.

DT Conference  
 LA English  
 CC Cardiovascular System - General; Methods \*14501  
 Biochemical Studies - General \*10060  
 Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods \*18001  
 Immunology and Immunochemistry - General; Methods \*34502  
 Pharmacology - General \*22002  
 General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals \*00520

BC Hominidae 86215

IT Major Concepts  
 Cardiovascular Medicine (Human Medicine, Medical Sciences);  
 Rheumatology (Human Medicine, Medical Sciences)

IT Diseases  
 arterial thrombosis: vascular disease; stroke: nervous system disease, vascular disease; systemic lupus erythematosus: connective tissue disease, immune system disease

IT Chemicals & Biochemicals  
 estrogen: hormone - drug; homocysteine

IT Alternate Indexing  
 Cerebrovascular Disorders (MeSH); Lupus Erythematosus, Systemic (MeSH); Thrombosis (MeSH)

IT Methods & Equipment  
 hormone replacement therapy: therapeutic method

IT Miscellaneous Descriptors  
 menopause; risk factors; Meeting Abstract; Meeting Poster

ORGN Super Taxa  
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name  
 human (Hominidae): female, patient

ORGN Organism Superterms  
 Animals; Chordates; Humans; Mammals; Primates; Vertebrates

RN 454-29-5Q (HOMOCYSTEINE)  
 6027-13-0Q (HOMOCYSTEINE)

L124 ANSWER 3 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1999:282579 BIOSIS  
 DN PREV199900282579  
 TI Evidence for impaired vitamin B6 status in patients with rheumatoid arthritis.  
 AU Chiang, E.-P. (1); Roubenoff, R. (1); Selhub, J. (1); Bagley, P. J. (1)  
 CS (1) JM USDA Human Nutrition Research Center on Aging at Tufts University, Boston, MA, 02111 USA  
 SO FASEB Journal, (March 15, 1999) Vol. 13, No. 5 PART 2, pp. A889.  
 Meeting Info.: Annual Meeting of the Professional Research Scientists on Experimental Biology 99 Washington, D.C., USA April 17-21, 1999 Federation of American Societies for Experimental Biology  
 . ISSN: 0892-6638.

DT Conference  
 LA English  
 CC Nutrition - General Studies, Nutritional Status and Methods \*13202  
 Clinical Biochemistry; General Methods and Applications \*10006

Biochemical Studies - General \*10060  
 Physiology, General and Miscellaneous - General \*12002  
 Blood, Blood-Forming Organs and Body Fluids - General; Methods \*15001  
 Immunology and Immunochemistry - Immunopathology, Tissue Immunology  
 \*34508  
 Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
 Pathology, General and Miscellaneous - Inflammation and Inflammatory  
 Disease \*12508  
 Pathology, General and Miscellaneous - General \*12502  
 General Biology - Symposia, Transactions and Proceedings of Conferences,  
 Congresses, Review Annuals \*00520  
 BC Hominidae 86215  
 IT Major Concepts  
     Nutrition; Skeletal System (Movement and Support)  
 IT Parts, Structures, & Systems of Organisms  
     blood plasma: blood and lymphatics, chemical analysis  
 IT Diseases  
     rheumatoid arthritis: connective tissue disease, immune system disease,  
     joint disease  
 IT Chemicals & Biochemicals  
     amino acids; vitamin B6; vitamins; water-soluble vitamins  
 IT Alternate Indexing  
     Arthritis, Rheumatoid (MeSH)  
 IT Miscellaneous Descriptors  
     impaired vitamin B6; Meeting Abstract  
 ORGN Super Taxa  
     Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
 ORGN Organism Name  
     human (Hominidae): patient  
 ORGN Organism Superterms  
     Animals; Chordates; Humans; Mammals; Primates; Vertebrates  
 RN 8059-24-3 (VITAMIN B6)

L124 ANSWER 4 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1998:469636 BIOSIS  
 DN PREV199800469636  
 TI Effectiveness of B-vitamin therapy in reducing plasma total homocysteine  
 in patients with systemic lupus erythematosus (SLE.  
 AU Petri, M.; Vu, D.; Omura, A.; Yuen, J.; Selhub, J.; Rosenberg,  
 I.; Roubenoff, R.  
 CS John Hopkins Univ. Sch. Med., Baltimore, MD 21205 USA  
 SO Arthritis & Rheumatism, (Sept., 1998) Vol. 41, No. 9 SUPPL., pp. S241.  
 Meeting Info.: 62nd National Scientific Meeting of the American College of  
 Rheumatology and the 33rd National Scientific Meeting of the Association  
 of Rheumatology Health Professionals San Diego, California, USA November  
 8-12, 1998 American College of Rheumatology  
 . ISSN: 0004-3591.  
 DT Conference  
 LA English  
 CC Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods  
 \*18001  
 Pharmacology - General \*22002  
 Immunology and Immunochemistry - General; Methods \*34502  
 General Biology - Symposia, Transactions and Proceedings of Conferences,  
 Congresses, Review Annuals \*00520  
 BC Hominidae 86215  
 IT Major Concepts  
     Pharmacology; Rheumatology (Human Medicine, Medical Sciences)  
 IT Diseases  
     systemic lupus erythematosus: connective tissue disease, immune system  
     disease  
 IT Chemicals & Biochemicals  
     homocysteine: plasma, total

IT Methods & Equipment  
B-vitamin therapy: effectiveness, therapeutic method  
IT Miscellaneous Descriptors  
Meeting Abstract  
ORGN Super Taxa  
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
ORGN Organism Name  
human (Hominidae): patient  
ORGN Organism Superterms  
Animals; Chordates; Humans; Mammals; Primates; Vertebrates  
RN 454-29-5Q (HOMOCYSTEINE)  
6027-13-0Q (HOMOCYSTEINE)

L124 ANSWER 5 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1998:158734 BIOSIS  
DN PREV199800158734  
TI Clinical associations of homocysteine in SLE.  
AU Petri, M. (1); Roubenoff, R.; Selhub, J.; Rosenberg, I.  
CS (1) Johns Hopkins Univ., Baltimore, MD USA  
SO Arthritis & Rheumatism, (Sept., 1997) Vol. 40, No. 9 SUPPL., pp. S333.  
Meeting Info.: 61st National Scientific Meeting of the American College of Rheumatology and the 32nd National Scientific Meeting of the Association of Rheumatology Health Professionals Washington, DC, USA November 8-12, 1997 Association of Rheumatology Health Professionals  
. ISSN: 0004-3591.  
DT Conference  
LA English  
CC Cardiovascular System - General; Methods \*14501  
Biochemical Studies - General \*10060  
Metabolism - General Metabolism; Metabolic Pathways \*13002  
Blood, Blood-Forming Organs and Body Fluids - General; Methods \*15001  
Urinary System and External Secretions - General; Methods \*15501  
Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods \*18001  
General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals \*00520  
BC Hominidae 86215  
IT Major Concepts  
Cardiovascular Medicine (Human Medicine, Medical Sciences)  
IT Parts, Structures, & Systems of Organisms  
kidney: excretory system  
IT Diseases  
arterial thrombosis: vascular disease; arteriosclerosis: vascular disease; hypertension: vascular disease; nephrotic syndrome: urologic disease; proteinuria: urologic disease; renal insufficiency: urologic disease; systemic lupus erythematosus: connective tissue disease, immune system disease; Cushingoid habitus  
IT Chemicals & Biochemicals  
homocysteine: metabolism, serum, vascular risk factor; prednisone  
IT Miscellaneous Descriptors  
Meeting Abstract  
ORGN Super Taxa  
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
ORGN Organism Name  
human (Hominidae): patient  
ORGN Organism Superterms  
Animals; Chordates; Humans; Mammals; Primates; Vertebrates  
RN 454-29-5Q (HOMOCYSTEINE)  
6027-13-0Q (HOMOCYSTEINE)  
53-03-2 (PREDNISONE)

L124 ANSWER 6 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.



AN 1997:227054 BIOSIS  
DN PREV199799518770  
TI Abnormal homocysteine metabolism in rheumatoid arthritis.  
AU **Roubenoff, Ronenn (1)**; Dellaripa, Paul; Nadeau, Marie R.; Abad, Leslie W.; Muldoon, Bernadette A.; **Selhub, Jacob**; Rosenberg, Irwin H.  
CS (1) MHS, Jean Mayer USDA Human Nutrition Res. Cent. Aging Tufts Univ., 711 Washington St., Boston, MA 02111 USA  
SO Arthritis & Rheumatism, (1997) Vol. 40, No. 4, pp. 718-722. ISSN: 0004-3591.  
DT Article  
LA English  
AB Objective. To assess total homocysteine (tHcy) metabolism in patients with rheumatoid arthritis (RA). Methods. Assessments were performed to determine the fasting levels of tHcy and the increase in tHcy in response to methionine (Met) challenge in blood samples from 28 patients with RA and 20 healthy age-matched control subjects. Results. Fasting levels of tHcy were 33% higher in the RA patients than in the control subjects (mean  $\pm$  SD 11.7  $\pm$  1.5 nmoles/ml versus 8.8  $\pm$  1.1 nmoles/ml;  $P$   $\leq$  0.01). Four hours after Met challenge, the increase in plasma tHcy levels (DELTA-tHcy) was higher in the RA patients (20.9  $\pm$  10.4 nmoles/ml) than in the control subjects (15.5  $\pm$  1.6 nmoles/ml) ( $P$   $\leq$  0.02). In a subgroup analysis, the DELTA-tHcy in patients taking methotrexate (12.9  $\pm$  2.2 nmoles/ml) did not differ from that in the control group, while the DELTA-tHcy in patients not taking methotrexate (25.3  $\pm$  1.7 nmoles/ml) was significantly higher ( $P$   $\leq$  0.0001). Conclusion. Elevated tHcy levels occur commonly in patients with RA, and may explain some of the increased cardiovascular mortality seen in such patients. Studies of the prevalence and mechanism of hyperhomocysteinemia in RA are warranted.

CC Biochemical Studies - General \*10060  
Metabolism - General Metabolism; Metabolic Pathways \*13002  
Bones, Joints, Fasciae, Connective and Adipose Tissue - General; Methods \*18001  
Immunology and Immunochemistry - General; Methods \*34502

BC Hominidae \*86215

IT Major Concepts  
Biochemistry and Molecular Biophysics; Immune System (Chemical Coordination and Homeostasis); Metabolism; Skeletal System (Movement and Support)

IT Chemicals & Biochemicals  
HOMOCYSTEINE; METHIONINE

IT Miscellaneous Descriptors  
ABNORMAL METABOLISM; CONNECTIVE TISSUE DISEASE; HOMOCYSTEINE; IMMUNE SYSTEM DISEASE; JOINT DISEASE; METABOLISM; METHIONINE; PATIENT; RHEUMATOID ARTHRITIS; RHEUMATOLOGY; TOTAL FASTING BLOOD LEVELS

ORGN Super Taxa  
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name  
human (Hominidae)

ORGN Organism Superterms  
animals; chordates; humans; mammals; primates; vertebrates

RN 454-28-4Q (HOMOCYSTEINE)  
6027-13-0Q (HOMOCYSTEINE)  
63-68-3 (METHIONINE)

L124 ANSWER 7 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1997:184718 BIOSIS  
DN PREV199799483921  
TI Plasma pyridoxal-PO-4 levels and homocysteine fall with inflammation in adjuvant arthritis.  
AU Chiang, E.-P.; Smith, D.; Seyoum, E.; **Selhub, J.**;  
**Roubenoff, R.**  
CS Jean Mayer USDA HNRC at Tufts Univ., Boston, MA 02111 USA

SO FASEB Journal, (1997) Vol. 11, No. 3, pp. A177.  
Meeting Info.: Annual Meeting of the Professional Research Scientists on  
Experimental Biology 97 New Orleans, Louisiana, USA April 6-9, 1997  
ISSN: 0892-6638.

DT Conference; Abstract

LA English

CC General Biology - Symposia, Transactions and Proceedings of Conferences,  
Congresses, Review Annuals 00520  
Biochemical Studies - Vitamins \*10063  
Pathology, General and Miscellaneous - Inflammation and Inflammatory  
Disease \*12508  
Metabolism - Water-Soluble Vitamins \*13018  
Nutrition - Water-Soluble Vitamins \*13210  
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies  
\*15002  
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
Gerontology \*24500

BC Muridae \*86375

IT Major Concepts  
Aging; Biochemistry and Molecular Biophysics; Blood and Lymphatics  
(Transport and Circulation); Metabolism; Nutrition; Pathology; Skeletal  
System (Movement and Support)

IT Chemicals & Biochemicals  
HOMOCYSTEINE; PYRIDOXAL-5'-PHOSPHATE; VITAMIN B6

IT Miscellaneous Descriptors  
ADJUVANT ARTHRITIS; AGING; BLOOD AND LYMPHATICS; BODY WEIGHT;  
HOMOCYSTEINE; INFLAMMATION; JOINT DISEASE; LEWIS RAT; NUTRITION; OLD;  
PLASMA; PLASMA LEVELS; PYRIDOXAL-5'-PHOSPHATE; SKELETAL SYSTEM; VITAMIN  
B6; YOUNG

ORGN Super Taxa  
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name  
Muridae (Muridae)

ORGN Organism Superterms  
animals; chordates; mammals; nonhuman vertebrates; nonhuman mammals;  
rodents; vertebrates

RN 454-28-4Q (HOMOCYSTEINE)  
6027-13-0Q (HOMOCYSTEINE)  
54-47-7 (PYRIDOXAL-5'-PHOSPHATE)  
8059-24-3 (VITAMIN B6)

L124 ANSWER 8 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1996:534324 BIOSIS

DN PREV199699256680

TI Plasma homocysteine as a risk factor for atherothrombotic events in  
systemic lupus erythematosus.

AU Petri, Michelle; **Roubenoff, Ronenn (1)**; Dallal, Gerard E.;  
Nadeau, Marie R.; **Selhub, Jacob**; Rosenberg, Irwin H.

CS (1) Jean Mayer USDA, Human Nutrition Res. Cent. Aging, Tufts Univ.,  
Boston, MA 02111 USA

SO Lancet (North American Edition), (1996) Vol. 348, No. 9035, pp. 1120-1124.  
ISSN: 0099-5355.

DT Article

LA English

AB Background: The aim of this study was to asses whether plasma homocysteine  
is a risk factor for stroke and other thrombotic events in patients with  
systemic lupus erythematosus (SLE) sbd a condition known to be associated  
with premature atherothrombotic complications. Methods: In this  
prospective study, we investigated the association between homocysteine  
and risk of stroke and thrombotic events in 337 SLE patients in the  
Hopkins Lupus Cohort Study, with follow-up of 1619 person-years (mean 4.8  
(SD 1.7) years). Each patient had four follow-up assessments per year to  
obtain information about established risk factors for thrombosis and

coronary artery disease. The prospectively defined endpoints were occurrence of stroke and arterial or venous thrombotic events between 1987 and 1995. Blood samples were taken at study entry from fasting patients. Plasma homocysteine, folate, vitamin B12, and pyridoxal 5'-phosphate (PLP) concentrations were measured. Raised homocysteine concentrations were defined as more than 14.1  $\mu$ -mol/L. Findings 93% of the study population were women, 54% African American, and 45% white. The mean age of participants was 34.9 (SD 11.7) years. During follow-up there were 29 cases of stroke and 31 arterial thrombotic events. Raised homocysteine concentrations were found in 51 (15%) SLE patients. The log-transformed total homocysteine concentrations correlated with serum folate ( $r=0.31$ ,  $p=0.0001$ ). In univariate analyses, raised homocysteine concentrations were significantly associated with stroke (odds ratio 2.24 (95% CI 1.22-4.13),  $p=0.01$ ) and arterial thrombotic events (3.74 (1.96-7.13),  $p=0.0001$ ). After adjustment for established risk factors, total plasma homocysteine concentrations remained an independent risk factor for stroke (2.44 (1.04-5.75),  $p=0.04$ ) and arterial thromboses (3.49 (0.97-12.54),  $p=0.05$ ). Interpretation: Homocysteine is a potentially modifiable, independent risk factor for stroke and thrombotic events in patients with SLE.

- CC Cardiovascular System - Blood Vessel Pathology \*14508  
 Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies \*15002  
 Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies \*15006  
 Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
 Integumentary System - Pathology \*18506  
 Nervous System - Pathology \*20506  
 Immunology and Immunochemistry - Immunopathology, Tissue Immunology \*34508
- BC Hominidae \*86215
- IT Major Concepts  
 Blood and Lymphatics (Transport and Circulation); Cardiovascular Medicine (Human Medicine, Medical Sciences); Clinical Immunology (Human Medicine, Medical Sciences); Dermatology (Human Medicine, Medical Sciences); Hematology (Human Medicine, Medical Sciences); Neurology (Human Medicine, Medical Sciences); Skeletal System (Movement and Support)
- IT Chemicals & Biochemicals  
 HOMOCYSTEINE
- IT Miscellaneous Descriptors  
 CARDIOVASCULAR MEDICINE; CONNECTIVE TISSUE DISEASE; HEMATOLOGY; IMMUNE SYSTEM DISEASE; NERVOUS SYSTEM DISEASE; NEUROLOGY; PATIENT; PLASMA HOMOCYSTEINE; PREMATURE ATHEROTHROMBOTIC COMPLICATIONS; RISK FACTOR; STROKE; SYSTEMIC LUPUS ERYTHEMATOSUS; VASCULAR DISEASE
- ORGN Super Taxa  
 Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
- ORGN Organism Name  
 human (Hominidae)
- ORGN Organism Superterms  
 animals; chordates; humans; mammals; primates; vertebrates
- RN 454-28-4Q (HOMOCYSTEINE)  
 6027-13-0Q (HOMOCYSTEINE)

- L124 ANSWER 9 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
 AN 1996:501658 BIOSIS  
 DN PREV199699224014  
 TI Abnormal homocysteine (HC) metabolism in SLE is linked to low vitamin B6.  
 AU **Roubenoff, R.**; Abad, L. W.; Chiang, E.-P.; Carton, M.; Nadeau, M.; **Selhub, J.**; Rosenberg, I. H.  
 CS Human Nutrition Res. Cent., Tufts Univ., Medford, MA 02155 USA  
 SO Arthritis & Rheumatism, (1996) Vol. 39, No. 9 SUPPL., pp. S202.  
 Meeting Info.: 60th National Scientific Meeting of the American College of Rheumatology and the 31st National Scientific Meeting of the Association

of Rheumatology Health Professionals Orlando, Florida, USA October 18-22, 1996  
ISSN: 0004-3591.

DT Conference  
LA English  
CC Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease \*12508  
Metabolism - Proteins, Peptides and Amino Acids \*13012  
Metabolism - Water-Soluble Vitamins \*13018  
Metabolism - Metabolic Disorders \*13020  
Nutrition - Malnutrition; Obesity \*13203  
Nutrition - Water-Soluble Vitamins \*13210  
Cardiovascular System - Blood Vessel Pathology \*14508  
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
Nervous System - Pathology \*20506  
Immunology and Immunochemistry - Immunopathology, Tissue Immunology \*34508

BC Hominidae \*86215  
IT Major Concepts  
Cardiovascular Medicine (Human Medicine, Medical Sciences); Clinical Immunology (Human Medicine, Medical Sciences); Metabolism; Neurology (Human Medicine, Medical Sciences); Nutrition; Pathology; Skeletal System (Movement and Support)

IT Chemicals & Biochemicals  
HOMOCYSTEINE; VITAMIN B6

IT Miscellaneous Descriptors  
ABNORMAL HOMOCYSTEINE METABOLISM; CONNECTIVE TISSUE DISEASE; FEMALE; HOMOCYSTEINE; IMMUNE SYSTEM DISEASE; JOINT DISEASE; MEETING POSTER; METABOLIC DISEASE; METABOLISM; NERVOUS SYSTEM DISEASE; NUTRITION; NUTRITIONAL DISEASE; PATIENT; RHEUMATOID ARTHRITIS; STROKE; SYSTEMIC LUPUS ERYTHEMATOSUS; VASCULAR DISEASE; VITAMIN B6 DEFICIENCY

ORGN Super Taxa  
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name  
human (Hominidae)

ORGN Organism Superterms  
animals; chordates; humans; mammals; primates; vertebrates

RN 454-28-4Q (HOMOCYSTEINE)  
6027-13-0Q (HOMOCYSTEINE)  
8059-24-3 (VITAMIN B6)

L124 ANSWER 10 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1996:211767 BIOSIS  
DN PREV199698767896  
TI Effect of inflammatory cachexia on pyridoxal phosphate, folate, and B12 in Lewis rats.  
AU Chiang, E.; Smith, D.; Abad, L.; Nadeau, M.; Selhub, J.; Roubenoff, R.  
CS Jean Mayer USDA-HNRC, Tufts Univ., Boston, MA 02111 USA  
SO FASEB Journal, (1996) Vol. 10, No. 3, pp. A803.  
Meeting Info.: Experimental Biology 96, Part II Washington, D.C., USA April 14-17, 1996  
ISSN: 0892-6638.

DT Conference  
LA English  
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520  
Biochemical Studies - Vitamins 10063  
Pathology, General and Miscellaneous - General \*12502  
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease \*12508  
Nutrition - Malnutrition; Obesity \*13203  
Nutrition - Water-Soluble Vitamins \*13210

Digestive System - Pathology \*14006  
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
Medical and Clinical Microbiology - Bacteriology \*36002  
BC Mycobacteriaceae 08881  
Muridae \*86375  
IT Major Concepts  
Digestive System (Ingestion and Assimilation); Infection; Nutrition;  
Pathology; Skeletal System (Movement and Support)  
IT Chemicals & Biochemicals  
PYRIDOXAL PHOSPHATE; FOLATE  
IT Miscellaneous Descriptors  
ADJUVANT ARTHRITIS MODEL; HEPATIC DEPLETION; MEETING ABSTRACT  
ORGN Super Taxa  
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia;  
Mycobacteriaceae: Eubacteria, Bacteria  
ORGN Organism Name  
Muridae (Muridae); Mycobacterium butyricum (Mycobacteriaceae)  
ORGN Organism Superterms  
animals; bacteria; chordates; eubacteria; mammals; microorganisms;  
nonhuman mammals; nonhuman vertebrates; rodents; vertebrates  
RN 54-47-7 (PYRIDOXAL PHOSPHATE)  
59-30-3 (FOLATE)

L124 ANSWER 11 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:316275 BIOSIS  
DN PREV199598330575  
TI Validation of abbreviated oral methionine-loading test.  
AU Bostom, Andrew G. (1); **Roubenoff, Ronenn**; Dellaripa, Paul;  
Nadeau, Marie R.; Sutherland, Patrice; Wilson, Peter W. F.; Jacques, Paul  
F.; **Selhub, Jacob**; Rosenberg, Irwin H.  
CS (1) Framingham Study, 5 Thurber St., Framingham, MA 01701 USA  
SO Clinical Chemistry, (1995) Vol. 41, No. 6 PART 1, pp. 948-949.  
ISSN: 0009-9147.  
DT Letter  
LA English  
CC Clinical Biochemistry; General Methods and Applications 10006  
Biochemical Studies - Proteins, Peptides and Amino Acids 10064  
Pathology, General and Miscellaneous - Diagnostic \*12504  
Metabolism - Proteins, Peptides and Amino Acids \*13012  
Metabolism - Metabolic Disorders \*13020  
Nutrition - Proteins, Peptides and Amino Acids \*13224  
BC Hominidae \*86215  
IT Major Concepts  
Metabolism; Nutrition; Pathology  
IT Miscellaneous Descriptors  
DIAGNOSTIC METHOD; HYPERHOMOCYSTEINEMIA  
ORGN Super Taxa  
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
ORGN Organism Name  
human (Hominidae)  
ORGN Organism Superterms  
animals; chordates; humans; mammals; primates; vertebrates

L124 ANSWER 12 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:192666 BIOSIS  
DN PREV199598206966  
TI Dissociation between plasma pyridoxal-5'PO-4 (PLP) and evidence of PLP  
deficiency in chronic inflammation.  
AU Dellaripa, P. F.; **Selhub, J.**; Nadeau, M. R.; **Roubenoff,**  
**R.**  
CS New England Med. Cent., Jean Mayer USDA HNRC, Tufts Univ., Boston, MA  
02111 USA  
SO FASEB Journal, (1995) Vol. 9, No. 3, pp. A153.

Meeting Info.: Experimental Biology 95, Part I Atlanta, Georgia, USA April 9-13, 1995  
ISSN: 0892-6638.

DT Conference  
LA English  
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520  
Biochemical Studies - Vitamins \*10063  
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease \*12508  
Metabolism - Metabolic Disorders \*13020  
Nutrition - Water-Soluble Vitamins \*13210  
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies 15002  
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
Immunology and Immunochemistry - Immunopathology, Tissue Immunology \*34508  
Allergy \*35500  
BC Hominidae \*86215  
IT Major Concepts  
Allergy (Clinical Immunology, Human Medicine, Medical Sciences); Biochemistry and Molecular Biophysics; Clinical Immunology (Human Medicine, Medical Sciences); Metabolism; Nutrition; Pathology; Skeletal System (Movement and Support)  
IT Chemicals & Biochemicals  
VITAMIN B  
IT Miscellaneous Descriptors  
MEETING ABSTRACT; METABOLIC DISORDER; RHEUMATOID ARTHRITIS; VITAMIN B  
ORGN Super Taxa  
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
ORGN Organism Name  
human (Hominidae)  
ORGN Organism Superterms  
animals; chordates; humans; mammals; primates; vertebrates  
RN 98-92-0Q (VITAMIN B)  
12001-76-2Q (VITAMIN B)

L124 ANSWER 13 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1995:119684 BIOSIS

DN PREV199598133984

TI Abnormal vitamin B-6 status in rheumatoid cachexia: Association with spontaneous tumor necrosis factor alpha production and markers of inflammation.

AU **Roubenoff, Ronenn (1);** Roubenoff, Rebecca A.; **Selhub, Jacob;** Nadeau, Marie R.; Cannon, Joseph G.; Freeman, Lisa M.; Dinarello, Charles A.; Rosenberg, Irwin H.

CS (1) Body Composition Lab., USDA, HNRCA at Tufts Univ., 711 Washington St., Boston, MA 02111 USA

SO Arthritis & Rheumatism, (1995) Vol. 38, No. 1, pp. 105-109.

ISSN: 0004-3591.

DT Article

LA English

AB Objective. To compare vitamin B-6 levels in rheumatoid arthritis (RA) patients and healthy control subjects. Methods. We measured levels of vitamin B-6 in 23 adults with well-controlled RA, and in 23 healthy control subjects matched for age, sex, race, and weight. Results. Although plasma folate and vitamin B-12 concentrations and erythrocyte B-6 activity coefficients were similar in the patients and controls, plasma levels of pyridoxal-5'-phosphate (PLP) were lower in the RA patient group (mean  $\pm$  SD 46.1  $\pm$  48.1 versus 69.3  $\pm$  58.4 nmoles/liter;  $P$   $\leq$  0.004). In multivariate analyses, PLP was inversely associated with tumor necrosis factor alpha (TNF-alpha) production by peripheral blood mononuclear cells (PBMC) ( $P$   $\leq$  0.001), after adjustment for age, pain score, erythrocyte

sedimentation rate, and use of nonsteroidal antiinflammatory drugs.  
Conclusion. PLP levels are reduced in patients with RA. This reduction is associated with TNF-alpha production by PBMC.

- CC Cytology and Cytochemistry - Human \*02508  
Clinical Biochemistry; General Methods and Applications \*10006  
Biochemical Studies - Vitamins 10063  
Biochemical Studies - Proteins, Peptides and Amino Acids 10064  
Biochemical Studies - Carbohydrates 10068  
Pathology, General and Miscellaneous - General \*12502  
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease \*12508  
Metabolism - Carbohydrates \*13004  
Metabolism - Proteins, Peptides and Amino Acids \*13012  
Metabolism - Fat-Soluble Vitamins \*13016  
Nutrition - Malnutrition; Obesity \*13203  
Nutrition - Fat-Soluble Vitamins \*13208  
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies \*15002  
Blood, Blood-Forming Organs and Body Fluids - Blood Cell Studies \*15004  
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System \*15008  
Endocrine System - General \*17002  
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
Immunology and Immunochemistry - Immunopathology, Tissue Immunology \*34508
- BC Hominidae \*86215
- IT Major Concepts  
Blood and Lymphatics (Transport and Circulation); Cell Biology;  
Clinical Chemistry (Allied Medical Sciences); Clinical Immunology  
(Human Medicine, Medical Sciences); Endocrine System (Chemical  
Coordination and Homeostasis); Metabolism; Nutrition; Pathology;  
Skeletal System (Movement and Support)
- IT Chemicals & Biochemicals  
VITAMIN B6; FOLATE; VITAMIN B12; PYRIDOXAL-5'-PHOSPHATE
- IT Miscellaneous Descriptors  
ERYTHROCYTE; FOLATE; PERIPHERAL BLOOD MONONUCLEAR CELL;  
PYRIDOXAL-5'-PHOSPHATE; RHEUMATOID ARTHRITIS; TUMOR NECROSIS  
FACTOR-ALPHA; VITAMIN B12
- ORGN Super Taxa  
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
- ORGN Organism Name  
human (Hominidae)
- ORGN Organism Superterms  
animals; chordates; humans; mammals; primates; vertebrates
- RN 8059-24-3 (VITAMIN B6)  
59-30-3 (FOLATE)  
68-19-9 (VITAMIN B12)  
54-47-7 (PYRIDOXAL-5'-PHOSPHATE)

L124 ANSWER 14 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1995:4370 BIOSIS  
DN PREV199598018670  
TI Homocysteine (HC): An independent risk factor for stroke in systemic lupus erythematosus (SLE).  
AU Petri, M. (1); Roubenoff, R.; Nadeau, M.; Selhub, J.;  
Rosenberg, I.  
CS (1) Johns Hopkins Univ. Sch. Med., Baltimore, MD USA  
SO Arthritis & Rheumatism, (1994) Vol. 37, No. 9 SUPPL., pp. S281.  
Meeting Info.: 58th National Scientific Meeting of the American College of Rheumatology and the 29th National Scientific Meeting of the Association of Rheumatology Health Professionals Minneapolis, Minnesota, USA October 23-27, 1994  
ISSN: 0004-3591.

DT Conference  
LA English  
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520  
Biochemical Studies - Proteins, Peptides and Amino Acids 10064  
Pathology, General and Miscellaneous - Diagnostic 12504  
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease \*12508  
Cardiovascular System - Blood Vessel Pathology \*14508  
Blood, Blood-Forming Organs and Body Fluids - Blood, Lymphatic and Reticuloendothelial Pathologies \*15006  
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
Immunology and Immunochemistry - Immunopathology, Tissue Immunology \*34508  
BC Hominidae \*86215  
IT Major Concepts  
Cardiovascular Medicine (Human Medicine, Medical Sciences); Clinical Immunology (Human Medicine, Medical Sciences); Hematology (Human Medicine, Medical Sciences); Pathology; Skeletal System (Movement and Support)  
IT Chemicals & Biochemicals  
HOMOCYSTEINE  
IT Miscellaneous Descriptors  
ATHEROSCLEROSIS; MEETING ABSTRACT; MEETING POSTER; PROGNOSTIC IMPLICATION; THROMBOSIS  
ORGN Super Taxa  
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
ORGN Organism Name  
human (Hominidae)  
ORGN Organism Superterms  
animals; chordates; humans; mammals; primates; vertebrates  
RN 6027-13-0 (HOMOCYSTEINE)  
  
L124 ANSWER 15 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1994:9395 BIOSIS  
DN PREV199497022395  
TI Low blood pyridoxal-phosphate (PLP) in rheumatoid arthritis (RA) is driven by tumor necrosis factor-alpha (TNF).  
AU Roubenoff, R. (1); Selhub, J.; Dinarello, C. A.  
CS (1) USDA Human Nutr. Res. Cent., Tufts Univ., Boston, MA 02111 USA  
SO Arthritis and Rheumatism, (1993) Vol. 36, No. 9 SUPPL., pp. S124.  
Meeting Info.: 57th Annual Scientific Meeting of the American College of Rheumatology San Antonio, Texas, USA November 7-11, 1993  
ISSN: 0004-3591.  
DT Conference  
LA English  
CC General Biology - Symposia, Transactions and Proceedings of Conferences, Congresses, Review Annuals 00520  
Biochemical Studies - General 10060  
Biochemical Studies - Proteins, Peptides and Amino Acids 10064  
Biochemical Studies - Carbohydrates 10068  
Pathology, General and Miscellaneous - Inflammation and Inflammatory Disease \*12508  
Metabolism - General Metabolism; Metabolic Pathways \*13002  
Metabolism - Carbohydrates \*13004  
Metabolism - Proteins, Peptides and Amino Acids \*13012  
Blood, Blood-Forming Organs and Body Fluids - Blood and Lymph Studies \*15002  
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and Reticuloendothelial System \*15008  
Endocrine System - General \*17002  
Bones, Joints, Fasciae, Connective and Adipose Tissue - Pathology \*18006  
Immunology and Immunochemistry - Immunopathology, Tissue Immunology



\*34508  
BC Hominidae \*86215  
IT Major Concepts  
    Blood and Lymphatics (Transport and Circulation); Clinical Immunology  
    (Human Medicine, Medical Sciences); Endocrine System (Chemical  
    Coordination and Homeostasis); Metabolism; Pathology; Skeletal System  
    (Movement and Support)  
IT Chemicals & Biochemicals  
    PYRIDOXAL-PHOSPHATE  
IT Miscellaneous Descriptors  
    INFLAMMATORY MEDIATION; MEETING ABSTRACT; MEETING POSTER  
ORGN Super Taxa  
    Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
ORGN Organism Name  
    human (Hominidae)  
ORGN Organism Superterms  
    animals; chordates; humans; mammals; primates; vertebrates  
RN 54-47-7 (PYRIDOXAL-PHOSPHATE)

L124 ANSWER 16 OF 16 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.  
AN 1993:268730 BIOSIS  
DN PREV199344130880  
TI Low blood pyridoxal phosphate (PLP) but not total B6 in chronic  
inflammation is driven by tumor necrosis factor-alpha (TNF).  
AU Rall, L.; **Roubenoff, R.**; **Selhub, J.**  
CS USDA HNRCA, Tufts Univ., Boston, MA 02111 USA  
SO FASEB Journal, (1993) Vol. 7, No. 3-4, pp. A728.  
Meeting Info.: Meeting of the Federation of American Societies for  
Experimental Biology on Experimental Biology '93 New Orleans, Louisiana,  
USA March 28-April 1, 1993  
ISSN: 0892-6638.  
DT Conference  
LA English  
CC General Biology - Symposia, Transactions and Proceedings of Conferences,  
Congresses, Review Annuals 00520  
Biochemical Studies - Vitamins 10063  
Biochemical Studies - Proteins, Peptides and Amino Acids 10064  
Biochemical Studies - Carbohydrates 10068  
Pathology, General and Miscellaneous - Inflammation and Inflammatory  
Disease \*12508  
Metabolism - Carbohydrates \*13004  
Metabolism - Proteins, Peptides and Amino Acids \*13012  
Metabolism - Water-Soluble Vitamins \*13018  
Blood, Blood-Forming Organs and Body Fluids - Lymphatic Tissue and  
Reticuloendothelial System \*15008  
Endocrine System - General \*17002  
BC Hominidae \*86215  
IT Major Concepts  
    Blood and Lymphatics (Transport and Circulation); Endocrine System  
    (Chemical Coordination and Homeostasis); Metabolism; Pathology  
IT Chemicals & Biochemicals  
    PYRIDOXAL PHOSPHATE; VITAMIN B6  
IT Miscellaneous Descriptors  
    ABSTRACT; METABOLISM; VITAMIN B6  
ORGN Super Taxa  
    Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia  
ORGN Organism Name  
    human (Hominidae)  
ORGN Organism Superterms  
    animals; chordates; humans; mammals; primates; vertebrates  
RN 54-47-7 (PYRIDOXAL PHOSPHATE)  
8059-24-3 (VITAMIN B6)

=> d his

(FILE 'REGISTRY' ENTERED AT 09:22:27 ON 25 AUG 2002)

DEL HIS

E COBALAMIN/CN

L1 1 S E3  
L2 3 S 13408-78-1/CRN  
L3 1025 S 14613.1.1/RID  
L4 1021 S L3 NOT L1,L2

FILE 'HCAPLUS' ENTERED AT 09:27:46 ON 25 AUG 2002

L5 885 S L1  
L6 6542 S ?COBALAMIN?  
L7 6562 S L5,L6  
E COBALAMIN/CT  
E E3+ALL  
E ROUBENOFF R/AU  
L8 27 S E4  
E SELHUB J/AU  
L9 161 S E3,E4  
L10 6 S L7 AND L8,L9  
SEL DN AN 1  
L11 1 S L10 AND E1-E3  
SEL RN

FILE 'REGISTRY' ENTERED AT 09:30:17 ON 25 AUG 2002

L12 16 S E4-E19  
L13 1 S L12 AND L1-L4  
L14 2 S 107-43-7 OR 6915-17-9  
L15 298 S (107-43-7 OR 6915-17-9)/CRN  
L16 0 S L12 AND L14,L15  
L17 15 S L12 NOT L13,L14  
L18 5 S 10360-12-0 OR 3432-99-3 OR 2800-34-2 OR 134-35-0 OR 58-05-9  
L19 1 S 59-30-3  
L20 9 S L17 NOT L18,L19  
L21 14 S L18,L20  
SEL RN  
L22 158 S E20-E33/CRN  
L23 81 S 59-30-3/CRN  
L24 1 S L2 AND L23  
L25 0 S L2 AND L22

FILE 'HCAPLUS' ENTERED AT 09:37:10 ON 25 AUG 2002

L26 1 S L24  
L27 110 S L7 AND L21  
L28 542 S L7 AND L19  
L29 12 S L7 AND L22,L23  
L30 614 S L27-L29  
L31 961 S L7 AND (?FOLATE? OR ?FOLIC?)  
L32 990 S L30,L31  
L33 25 S L32 AND L14  
L34 0 S L32 AND L15  
L35 37 S L32 AND ?BETAIN?  
L36 38 S L33,L35  
L37 11041 S L4  
L38 2195 S L37 AND L21,L19,L22,L23  
L39 2194 S L37 AND (?FOLATE? OR ?FOLIC?)  
L40 65 S L38,L39 AND (L14,L15 OR ?BETAIN?)  
L41 84 S L36,L40  
L42 7 S L41 AND ?ARTHRIT?  
L43 1 S L41 AND CHONDROCYT?  
L44 1 S L41 AND OVERVIEW

L45 5 S L41 AND NEUROLOGICAL  
 L46 1 S L11 AND L41-L45  
 L47 47 S L39 AND L5  
 L48 6 S L47 AND L21  
 L49 28 S L5 AND L21  
 L50 1 S L5 AND L22  
 L51 190 S L5 AND L19, L23  
 L52 5 S L51 AND L14, L15  
 L53 8 S L51 AND ?BETAIN?  
 L54 8 S L52, L53  
 SEL DN AN 1 4  
 L55 2 S L54 AND E34-E39  
 L56 3 S L11, L26, L46, L55  
 L57 2 S L56 NOT 4/SC  
 L58 2 S L57 AND L5-L11, L26-L57  
 L59 182 S L51 NOT L41  
 L60 41 S L59 AND (1 OR 63)/SC, SX  
 L61 98 S L59 AND (17 OR 18)/SC, SX  
 L62 125 S L60, L61  
 L63 57 S L59 NOT L62  
 SEL DN AN L62 77  
 L64 1 S L62 AND E40-E42  
 L65 3 S L58, L64 AND L5-L11, L26-L64  
 L66 2 S L65 AND ?ARTHRIT?  
 L67 3 S L65, L66

FILE 'HCAPLUS' ENTERED AT 10:13:13 ON 25 AUG 2002  
 SEL HIT RN L67

FILE 'REGISTRY' ENTERED AT 10:13:28 ON 25 AUG 2002

L68 17 S E43-E59  
 L69 1 S L68 AND L1-L4  
 L70 15 S L68 AND L21, L19, L22, L23 NOT L24

FILE 'HCAPLUS' ENTERED AT 10:18:05 ON 25 AUG 2002

FILE 'WPIX' ENTERED AT 10:22:20 ON 25 AUG 2002

E A61K031-714/IC, ICM, ICS  
 L71 70 S E3-E5  
 E A61K031-714/ICA, ICI  
 L72 5 S E4  
 E A61K031:714/ICI  
 L73 2 S E3  
 E COBALAMIN/DCN  
 L74 468 S ?COBALAMIN?  
 L75 520 S L71-L74  
 E ROUBENOFF R/AU  
 L76 1 S E3  
 E SELHUB J/AU  
 L77 3 S E3  
 L78 3 S L75 AND L76, L77  
 L79 0 S L76 AND L77  
 E US2000-255600/AP, PRN  
 L80 1598 S 0279/DRN OR R00279/DCN OR (B03-E OR C03-E)/MC  
 L81 1731 S L75, L80  
 L82 1289 S V324/M0, M1, M2, M3, M4, M5, M6  
 L83 2054 S L81, L82  
 L84 73 S L83 AND ?FOLATE?  
 L85 321 S L83 AND ?FOLIC? ACID  
 E R24040+ALL/DCN  
 E R08441+ALL/DCN  
 E R00252+ALL/DCN  
 E R00183+ALL/DCN

L86 463 S L83 AND (0183/DRN OR R00183/DCN OR A61K031-525/IC, ICM, ICS, ICA  
L87 39 S L83 AND (?BETAIN? OR 0829/DRN OR R00829/DCN)  
L88 30 S L84-L86 AND L87  
SEL DN AN 9 20 L88  
L89 2 S L88 AND E1-E4  
L90 2 S L89 AND (?COBALAMIN? OR VIT?(S) (B12 OR B(S)12) OR ?FOLATE? OR

FILE 'WPIX' ENTERED AT 10:37:42 ON 25 AUG 2002

FILE 'MEDLINE' ENTERED AT 10:38:04 ON 25 AUG 2002

L91 4144 S L1 OR ?COBALAMIN?  
E COBALAMIN/CT  
E E3+ALL  
L92 10514 S E2+NT  
L93 11610 S E2/CN  
L94 13351 S L91-L93  
L95 108 S L94 AND L21  
L96 2657 S L94 AND L19  
E TETRAHYDROFOLATE/CT  
E E27+ALL  
L97 5305 S E24+NT  
L98 1366 S E24/CN  
L99 11271 S E23/CT, CN  
L100 172 S L94 AND L97, L98  
L101 2656 S L94 AND L99  
L102 13351 S L94, L100  
L103 2657 S L96, L101  
L104 1278 S L14  
L105 183 S L95, L100  
L106 2657 S L96, L101  
L107 3 S L104 AND L105  
L108 13 S L104 AND L106  
L109 4 S ?BETAIN? AND L105  
L110 4 S L107, L109  
L111 15 S ?BETAIN? AND L106  
L112 14 S L108, L111 NOT L110  
E DRUG COMBINATION/CT  
E E6+ALL  
L113 4 S E4+NT AND L105  
L114 6 S DRUG THERAPY, COMBINATION+NT/CT AND L105  
L115 9 S L113, L114  
SEL DN AN 1 9  
L116 2 S L115 AND E1-E6  
L117 174 S L105 NOT L115  
SEL DN AN L117 83 84 97 153  
L118 4 S L117 AND E7-E18  
L119 4 S L118 AND (FOLATE? OR ?FOLIC? ACID OR ?COBALAMIN? OR ?BETAIN?  
L120 6 S L116, L119

FILE 'MEDLINE' ENTERED AT 10:50:17 ON 25 AUG 2002

FILE 'BIOSIS' ENTERED AT 10:50:23 ON 25 AUG 2002

E ROUBENOFF R/AU  
L121 178 S E3, E4, E6-E8  
E SELHUB J/AU  
L122 345 S E3-E6, E8  
L123 4645 S L7  
L124 16 S L121 AND L122, L123

FILE 'BIOSIS' ENTERED AT 10:51:47 ON 25 AUG 2002